# A Public Lecture
ON
# PHARMACOLOGY: ITS AIMS AND METHODS.

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GENTLEMEN,—If we follow the history of science we find that there has been a process of fissiparous division. Scattered facts are brought together, classification and generalisation follow; the facts increase and multiply, and as they do so lines of cleavage show themselves. These lines deepen and widen as the facts go on accumulating and as the groups into which they become separated show more and more clearly the need for different lines of inquiry, till one of such groups becomes at last detached and forms, as far as this is possible, an independent science. There are few sciences in which this process has taken place to a greater extent than in that of medicine, one of whose latest offshoots is the science which I have the honour of introducing to you to-day—viz., pharmacology. In order to show that this, though of relatively recent origin, has not been barren of results, it suffices, while putting aside the names of distinguished pharmacologists of other countries, to mention two only of our own—viz., Frazer and Lauder Brunton. But what is Pharmacology? The term has been used in a narrow and in a comprehensive sense. I will for the moment employ it in the latter and provisionally define pharmacology as the science which treats of drugs. What, then, is a drug? A drug is any substance which may be used in the treatment of disease. I am aware that exception may be taken to such a definition, which includes, it may be said, even the knife of the surgeon, but it is difficult to frame one which shall be entirely free from objection. The same difficulty is encountered when we try to describe the difference between foods and medicines or between plants and animals; and, again, it is quite impossible to draw a sharp dividing line between the sciences of chemistry and physics.

In using a substance as a drug what is it which we need to know and which it is the province of pharmacology to teach? I have qualified the statement that pharmacology is an independent science. Few sciences, if any, can stand alone, and certainly not pharmacology. Life is attended by the exercise of function and health is dependent on the normal performance of this; in other words, disease is ordinarily manifested by a derangement of function and drugs are given for the purpose of restoring this perverted action to its normal state. The study of the normal functions of the body is therefore essential to the pharmacologist; but this study forms an important branch of physiology, and physiology is the only basis on which pharmacology can surely stand. The same perversion of function, however, may arise from different causes and conditions, hence the necessity for some knowledge of pathology. Function standing thus in intimate relation to physiology, pathology, and pharmacology it is desirable to consider it more closely, especially in connexion with one fundamental fact which underlies it. It is not dependent on form or size, for the monad and the largest mammalian are both functionally perfect. It seems not to be inseparably connected with complexity of structure, for the seemingly simple amœba performs the functions of digestion, respiration, and reproduction as efficiently as the more specialised animals of higher type. Of want of structure it behoves one, however, to speak with caution, for the apparently structureless substance of to-day may—thanks to improvement in our instruments and in the method of preparing specimens—be found to-morrow to possess a delicate and complicated organisation. There is one condition, however, which is present in all living things, and which, though it has a wider range of action than is represented by the exercise of function, is rarely, if ever, wanting where function occurs, and that is chemical activity. Medicine occupied itself at first with the organs of the body, with diseases of the brain, of the heart, of the lungs, &c. The organs, however, are made up of tisues and these, in their turn, become objects of investigation, but to stop here were obviously to stop midway, for the fibre and the cell are compound objects, and it is in the molecules and atoms constituting these that the real secrets respecting function are contained.

Omitting all consideration of the physical properties and changes of the molecules I propose to refer briefly to a few facts connected with their chemical activity. Most molecules under the usual physical conditions contain two or more atoms and chemical action is generally attended by a splitting of the molecules, the liberated atoms or groups of atoms arranging themselves differently and thus forming new and different molecules. This splitting of the individual molecules takes place because the sum of the forces tending to hold their atoms or groups of atoms together is less than that of the forces acting from without the molecules and in an opposite direction. The discussion of the nature of this force or forces is beyond the scope of the present lecture. It suffices with some substances simply to bring them together under the usual physical conditions for a splitting of their molecules to take place, while with others some help is needed—such as is afforded by heat, light, electricity, &c. Thus the molecules of hydrogen contain (under ordinary conditions of temperature and pressure) two atoms of hydrogen and that of chlorine two atoms of chlorine. If these gases are mixed and kept in the dark and at a moderate temperature they remain for the most part unchanged, but if the mixture is exposed to the sunlight or heated the molecules of each kind of gas are ruptured, the two (H) atoms in each (H) molecule and the two (Cl) atoms in each (Cl) molecule are separated and new molecules are formed, every one of which contains one atom of (Cl) and one of (H) (HCl). What in this case takes place with single atoms may occur also with groups. Thus if, instead of hydrogen and chlorine, we take marsh gas and chlorine we find the methyl group $CH_3$ acting just like the single atom of hydrogen, and instead of two molecules of hydrochloric acid we get one of hydrochloric acid and one of chloride of methyl $HCH_3 + Cl_2 = CH_3Cl + HCl$. In this case, therefore, as before, old molecules split, atoms or groups of atoms change places, and new molecules are formed. Now this process generally, if not always, attends the exercise of function and, as we shall see, the connexion is no accidental one. If the chemical changes going on in a resting muscle are estimated, so far as this is possible, at the ordinary temperature of the room and afterwards within certain limits at higher temperatures, they are found to have been increased by the elevation of temperature. If the power of the muscle to respond to stimuli is tested under the same conditions a corresponding rise in this is likewise to be observed as the temperature is raised. The muscle cells like that of an amœba have other functions to perform than that associated with movement, and it is with the heightened exercise of these that the increase of chemical activity referred to is connected. If what is regarded as the special function of the muscle—viz., that of doing mechanical work—is now called into play a fresh impetus is seen to have been given not only to the functional but also to the chemical activity of the part. And what is true of muscles individually is true of them collectively, is true of other organs, probably even of nerves and of the organism at large. A frog may be made by being warmed to exhibit more, and by cooling less, of both chemical and functional activity; indeed, these two processes seem to proceed *pari passu* within certain limits. The upper limit—that of increased activity—is soon reached. The question of the minimum of function and of chemical action compatible with the continuance of life is a very interesting one, but time forbids me to enter fully into it on the present occasion. In hibernating animals we have a reduction of both functional and chemical action during hibernation. In resting seeds and during the winter sleep of plants the reduction is carried still further, while living substances have been not only frozen but exposed to lower temperatures still without being killed. In some of these cases the diminution of both functional and chemical activity must have reached a point not far removed from complete arrest, and were it possible by means which did not injure the structure of the cells to arrest instantaneously and absolutely all chemical action in our own bodies and to maintain the cessation I see no reason why we should not rest for centuries and take up again the thread of active, busy life at any moment on the removal of the inhibitory influence. Unfortunately for those who might wish in this way to

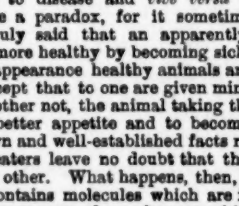
sacrifice the present to the future such complete arrest is not easily attainable, for absolute chemico-molecular inactivity is not a necessary condition of chemical equilibrium, the requirement for this being not that there shall be no chemico-molecular movements, but that these shall be in opposite directions and equal. In the meantime we should not have died—death, in fact, is far from being a condition of chemical inactivity. As it draws near, except when it occurs suddenly, the breaking up of old and the formation of new molecules on the old lines of health goes on less actively, some of the new ones formed come to differ from those they replace, and when death has actually happened the process does not stop; the molecules still split but the atoms soon group themselves differently and molecules of a totally different kind ultimately take the places of those of which the tissues had been previously composed. Our bodies then are made up of molecules and the normal performance of their function is inseparably bound up with the chemical behaviour of the molecules. These are capable of splitting and rearranging their atoms in a great variety of ways and health is maintained so long only as they do so in a particular manner, which is probably fixed and definite for every cell (including, however, a certain range of variation in connexion with varying conditions such as intermittence of function and change of food). A quantitative deviation from the normal is attended with an increase or diminution of functional activity. The precise effects of a qualitative change are less easily determined. This brings us within the province of disease and the passage from health to disease and *vice versâ* is subtle and may even involve a paradox, for it sometimes seems as if it might be truly said that an apparently healthy organism is rendered more healthy by becoming sick. When two young and to all appearance healthy animals are fed and treated identically except that to one are given minute doses of arsenic and to the other not, the animal taking the arsenic is found to have a better appetite and to become heavier than the other. Known and well-established facts respecting the Styrian arsenic eaters leave no doubt that this animal feels better than the other. What happens, then, in such a case? When a cell contains molecules which are foreign to it, either through the presence of an element which is not usually there or through a special grouping of its ordinary atoms, that cell is certainly abnormal and may fairly and reasonably be considered sick; and it is a fortunate accident if it is able to perform its functions with its usual precision and success. It is still more a matter for congratulation if the results of the functional action of such a cell not only equal but surpass those obtained from the normal ones. And yet this appears to have happened in the case of animals which have taken arsenic in the manner I have mentioned. Arsenic is taken up and retained; this can be proved by analysis, and as arsenic is chemically closely allied to nitrogen it has been suggested that in certain molecules arsenic may take the place of some of the nitrogen and it is conceivable that a proteid molecule containing a small amount of arsenic in place of an equivalent quantity of nitrogen may perform its functions as well as, or even better than, a corresponding proteid molecule constituted in the normal manner. But there is another way in which the arsenic may act in these cases. If larger doses are given the condition of improved health gives place to one in which the reverse obtains. The breaking up of the old and the formation of new molecules now take an abnormal course. The tissues lose their nitrogen and this, instead of yielding urea, which is a diamide, passes out of the body largely in such forms of combination as leucine and tyrosin which are amido-acids, while the carbon and hydrogen remain combined with oxygen in the form of fat molecules. The cells and fibres of the body are found, in fact, to have undergone fatty degeneration. Fatty degeneration is, however, under certain circumstances at least a natural process; it is the first step of the process by which nature gets rid of the solid exudation products of disease. It is therefore also conceivable that when in the apparently healthy the condition is improved by arsenic certain feeble cells of the organism—and probably the healthiest organism always contains some such—become fattily degenerated and replaced by others which are healthier and more robust.

Having thus indicated the nature of the connexion between chemical and functional activity in respect of both increase, diminution, and perversion of function I will add a word or two respecting the general character of chemical action. The chemist, when synthetically engaged, may be compared to a worker in precious stones, only instead of gems and jewels he has to handle molecules and atoms. The aim of each is by arrangement and rearrangement of his materials to produce ever an object of greater beauty and of greater value. As the diamond is the gem of gems, so carbon, of which the diamond is composed, is the central atom round which organic nature is built up. The chemist has an advantage over the jeweller in that his atoms, though not alive, are mysteriously active, and when he brings them together under certain conditions they need no cement to fix, no clamp to hold them in position, but by virtue of an innate power they bind and fix and clamp themselves. They do this, however, by means which follow fixed and settled laws.

For example, let H– –O– –N– and –C– represent

one atom of hydrogen, oxygen, nitrogen, and carbon severally. These have one, two, three, and four clamps or uniting bonds respectively. When such an atom is detached from its connexions its clamp or clamps becoming free it does not remain in this condition but attaches itself, each clamp joining with some other till all are fixed, and the united group thus formed constitutes a molecule. Thus H–H represents a molecule of hydrogen, but H–O– could not exist alone and would at once unite itself with some atom or group of atoms which had one clamp free. Another atom of hydrogen, e.g., would suffice, and we should then have a molecule of water, the two clamps of the oxygen and the one of each of the hydrogen atoms being all satisfied. To the clamps with their tendency to join with those of other atoms the term "affinity" is given and the wondrous energy displayed by some substances *in statu nascendi* is not strange when we bear in mind the necessity inherent in any atom or group of atoms to satisfy the accompanying affinities. An atom of hydrogen *in statu nascendi* (H–) can for this reason break up molecules which resist the fully-formed molecule of hydrogen (H–H).

Organic compounds are divided into two great classes, the fatty and the aromatic, and these are constructed on the type of the bar or open chain and the ring or closed chain respectively—



—and the chemist, like the jeweller, having made a bar can weld the ends together and form a ring if he desires one. He can take some molecules of carbon (charcoal) and of hydrogen and by heating them together under favourable conditions make them break up and change the position of their atoms so that acetylene is formed, $C_2+2H_2=2(H-C\equiv C-H)$. In this molecule he can introduce four atoms of (H) and so get ethane, $C_2H_2+2H_2=(H_3C-CH_3)$, or instead of this he can join together three molecules of acetylene and form a ring of benzol, $3C_2H_2=C_6H_6$. From ethane, by taking out an atom of H, and replacing it by a methyl group, he can produce propane, and by repeating the process butane and other hydro-carbons of the series. In the molecule of these hydro-carbons he can replace an atom of (H) by a hydroxyl group (OH) and so get the series of alcohols of which ordinary ethyl alcohol is the most familiar member $(CH_3CH_2)-H+OH=(CH_3CH_2OH)$. By removing two atoms (H) from this molecule he obtains the aldehyde, $CH_3CH_2OH-H_2=CH_3COH$. And from these aldehydes he gets acids by introducing into the molecule an atom of (O), $CH_3COH+O=CH_3COOH$. The so-called oxides of the alcohol radicals of the type of sulphuric ether are produced when from two molecules of the alcohol one molecule of water is removed. $2C_2H_5OH-H_2O=\frac{C_2H_5}{C_2H_5}>O$. The true or compound ethers are procured in the same way from a molecule of alcohol and of acid. From the saturated hydro-carbons the unsaturated are obtainable and from them again their various derivatives. And what is true of the fatty applies equally to the aromatic bodies. The alcohols of the benzines are formed in the same way as those of the fatty hydro-carbons, the first alcohol of this series being the so-called carbolic acid, a hydroxyl group replacing an atom of (H). If instead of a (OH) group we introduce into a benzine molecule a (COOH) group we get benzoic acid, and if both an (OH) and a

(COOH) group are substituted for two atoms of (H) salicylic acid is the result. Several such groups may be introduced in succession. Thus, if into a benzine ring we insert first a hydroxyl (OH), then an ethyl group ($C_2H_5$), next to this an amidogen ($NH_2$), and finally an acetyl one ($CH_3CO$), we get the valuable drug phenacetine. Then, again, two aromatic rings may be found together in a single molecule; it is in this way that salol is got from salicylic and carbolic acids, a molecule of water being removed. Not only the substances I have mentioned—with the exception of phenacetine, which contains some nitrogen—but an enormously large number of others may be made from charcoal, hydrogen, and oxygen with the aid of reagents, which may be regarded, under the circumstances, as the tools with which the chemist works. Other elements may be introduced into the molecules in the same way.

There is yet another mode of chemical action: $C\equiv N-H$ represents prussic acid; $C\equiv N\text{-}CH_3$, methyliso-nitrile or prussic acid in which an atom of H has been replaced by a methyl group. Both are poisonous. $CH_3-C\equiv N$, on the other hand, is the formula for methyl-nitrile, which is not poisonous. Both the isonitrile and the nitrile contain the same kind of atoms and the same number of them, but they are differently placed within the molecule, and new molecules, having entirely different properties from those they replace, may be formed by a mere intra-molecular change in the position of the constituent atoms. I mentioned that the number of affinities varies with the elements. I may add that some of the elements have sometimes one number of affinities and sometimes another—e.g., nitrogen may have three or five and sulphur two, four, or six. It will be remarked that in the isonitrile the nitrogen has five affinities and in the nitrile three only. This change, however, is not the cause of the difference in properties, for we find carbaminthionic acid, $CO\begin{matrix}SH\\NH_2\end{matrix}$, harmless, and thiocarbaminic acid, $CS\begin{matrix}OH\\NH_2\end{matrix}$, a powerful poison, though the kind and number of the atoms and the number of the affinities are the same in both cases, the only difference being the manner in which the elements are grouped; the (S) and the (O) in fact have changed places, the sulphur being joined to the carbon only in the poisonous compound, and to both the carbon and the hydrogen in the harmless one.

An important question now presents itself: Are the chemical phenomena occurring in living tissues essentially the same as those which take place in the laboratory? I will not go into the theories of the nature of the difference between dead proteid and living protoplasm. These, ingenious though they may be, lack the one thing needful—viz., the fact of being proven. But there are two facts connected with the subject to which I would wish to draw attention. 1. The synthesis of such bodies as urea and sugar has dispelled, probably once for all, the belief that any products of plants or animals are necessarily incapable of being copied by the chemist. 2. Though it is true that the course of chemical action in living things does not run strictly parallel with that observed in the laboratory, and though life and organisation occur in the former while they are wanting in the latter, it must not be forgotten that there is another factor of supreme importance. It may be safely asserted that in living tissues there are not a few only but many substances which have never yet been isolated; and as the results of any reaction depend, not in some slight degree merely, but mainly and principally on the nature of the reagents present, it must needs be that the chemistry of life will present difficulties which the laboratory for the time being is unable to explain. When, on the other hand, this disturbing factor, the presence of unknown bodies, has been eliminated, as in the future we may hope it will be, it is quite possible that many of the difficulties at present connected with the subject will have explained themselves.

Having taken a cursory glance at the kind of chemical changes constantly going on in our bodies we are now in a position to ask what happens when to the seething, restless mass of molecules of which they are made up we add fresh molecules in the form of drugs. We will take in illustration one of the simplest—viz, common table salt; this, though generally a condiment, may sometimes prove a valuable medicine. It may fall to the lot of some of you to find yourselves in charge of a case of poisoning in which, having done your best not only to remove the poison from the system by the ordinary methods, but also to combat special symptoms and support the strength of your patient, you find yourselves confronted by the fact that in the desperate struggle between the poison and the organism the latter will, if no further help be given, inevitably succumb before it can eliminate the poison. One hope remains, and that is afforded by removing some of the blood, and with it the poison it contains. Having done this, you must replace the missing blood by other blood, or, by what is perhaps better, and certainly safer, by a weak solution of chloride of sodium. Let us suppose that you have injected a proper quantity of this. What is likely to happen to it? A certain—or rather an uncertain—time after the injection there will have been eliminated from the body a quantity of chlorine and of sodium larger than would otherwise have been excreted by an amount corresponding to the chloride of sodium in the injection. Chloride of sodium being a normal constituent of the body it seems natural to conclude that the (Na) and the (Cl) simply circulated as (NaCl) in the interval. This is, however, by no means necessarily what has taken place. The chlorine and the sodium may each have had a very chequered and independent career—independent, i.e., of each other. The chloride of sodium coming into contact with water and carbonic acid may give free hydrochloric acid according to the equation $2NaCl + CO_2 + H_2O = Na_2CO_3 + 2HCl$. The HCl, after taking part in digestion and finding itself in relation with several bases—viz., those of (K), (Na), (Ca) and Mg—may combine with two or more of these in succession and be finally eliminated in union with some of them. The sodium carbonate may also be decomposed and its sodium be united to one, or more than one, of the several acids of the body. Even when the (Cl) and the (Na) do leave the body in the form of (NaCl) it may happen that in any given molecule the (Cl), having been introduced in the injection, detached itself from the (Na) with which it was united and afterwards combined with a (Na) atom which was previously in the body; and the same applies, *mutatis mutandis*, to the sodium atom. The more complicated drugs are naturally not more exempt from change than chloride of sodium, and it may happen that the therapeutic action of a medicine is due neither to the substance which enters nor to that which leaves the body, but to an intermediate product. The subject of the changes undergone by drugs in the body is both interesting and important. Interesting is it to see a substance like sulphonal, which, though resisting the action of some very powerful reagents in the laboratory, is slowly but surely changed by the forces which are at work within us. More interesting still, perhaps, to see how a drug seizes on and fixes some intermediate product of tissue change and thus brings it, perhaps for the first time, under our observation. The cystin-forming group has been thus fixed by the halogen derivatives of benzine, the resulting phenyl-mercapturic acid showing that this group, like uric acid, is formed normally during the ordinary processes of nutrition. Interesting again is it to see one drug reduced and another oxidised during its passage through the system, while a third leaves the body partly in an oxidised and partly in a reduced condition. It is also not without interest that a drug may become for the time being an integral part of the living organism.

We are now able to answer a question asked at an earlier period of the lecture—viz., What is the kind of knowledge which pharmacology is expected to supply? It should tell us not only the coarser and more obvious changes in function induced by the introduction of a drug into the system, but also in as precise terms and as fully as possible the chemico-molecular phenomena which accompany these changes. I need not say that the chemico-molecular phenomena accompanying normal function are not fully understood and I do not wish to imply that even if they were we should know all which it would be well for us to know respecting function. We should still probably be unable to say why contractile tissue contracts or why, coincidently with molecular changes in a particular part of the brain, a thought is struck off.

I pass to a consideration of how knowledge of the kind I have indicated is to be obtained. It is needless to inquire if materia medica either teaches or contributes to increase this form of knowledge. The question carries with it its own negative reply and it may probably be safely predicted that at a period which, though future, is, I hope, not far distant, the greater part of materia medica will be relegated to its natural *habitat*—the domain of the druggist. *A priori* reasoning in the present state of our knowledge also avails

nothing. The one, the only, method of inquiry is the experimental. What, then, is an experiment? An experiment consists in altering the conditions connected with a subject and observing the result. What more easy? some may say. But those who speak thus forget the difference between looking at and seeing. An artist looking at an object or a landscape will see much which the untrained eye is sure to overlook and many physicists must have looked at without observing some of those phenomena, the clear and definite seeing of which has made the name of Faraday for ever famous. It is well if we can at once explain what we see, but the important point is that we do see and that we see truly. A fact is an eternal truth; an inference from a fact may be—sometimes is—altogether false. The literature of science teems with hypotheses, some of which, though masterpieces of ingenious theorising, possess one fatal fault, that of having been falsified by subsequent experience. Not that hypotheses are valueless—they serve various purposes, including that of suggesting new lines of work which, even when, as is sometimes the case, they disprove the theory to which they owed their origin, may lead to results of lasting value. The therapeutic use of chloral hydrate is connected with a perfectly reasonable but quite erroneous hypothesis—the belief that the chloral hydrate was decomposed by the alkaline fluids of the body as it is decomposed by alkalies in the laboratory, yielding chloroform. Chloral yields no chloroform in passing through the body, but it is none the less a potent and valuable medicine.

It will be evident from what I have said respecting the nature of an experiment that every prescription carried out is, thanks to the multiplicity and varying nature of the factors involved, necessarily an experiment. Bearing in mind the enormous number of prescriptions written daily by medical men throughout the world, and not forgetting the great and special difficulties connected with this particular form of work, I would still venture to ask, Is the harvest reaped by pharmacology in this field as abundant as might reasonably be hoped for? Though it is true that no inconsiderable part of existing pharmacological knowledge has been acquired by the mode of experimenting to which I have alluded we are compelled to ask, Does this method, unaided and alone, suffice to protect those who entrust not only health but life to our care? In connexion with this subject I will direct your attention for a moment to what is perhaps one of the saddest pages in the history of medicine. Till the researches of Pasteur had indicated the line along which light was to be sought no outlook was more dark, no prospect more dreary than that presented by diphtheria. The helpless physician used this remedy and that, and amongst others he tried chlorate of potassium. It seemed to be of service; at any rate, there were *a priori* grounds on which it might be expected to be useful. It was used extensively, it was used for years. In the course of time, however, and almost at the same period that an American physician sounded a note of warning, a German prosector noticed in the bodies of those who died while taking it appearances which suggested to his mind the fearful question: Can this fancied remedy be helping the disease to kill? It was a question which could be answered only by further experiments on animals. They answered it, and with an almost brutal clearness showed that the lethal dose of a poison had been given. They showed that the physician had pointed the shaft of the disease, nay, more, that he had himself forged a weapon with an edge more keen than that of even diphtheria itself. This happened in 1879. How many victims chlorate of potassium had claimed till then and how many more homes might have been darkened between then and now but for those experiments on animals it is vain to guess. The episode is past and though painful is instructive, and I think we may not only patiently but even confidently await the time when those who are now against us on the subject of experiments on animals will, with fuller knowledge and not less humanity, reverse their present unfavourable judgment, remembering that yielding to the instinct of pity, though more easy, is not always better, wiser, or holier than resistance to it.

Another method by which pharmacological knowledge is to be obtained is that which is generally understood as research. This, I think, is an ideal form of work, and the leisure and acquirements needed for it are, in my opinion, well worth striving after. A laboratory, it is true, may not be an attractive object. It is not usually gratifying to the æsthetic sense; there are apt to be too many and too obvious manifestations of matter apparently in the wrong place, but it possesses, or at least should possess, one of the fundamental attributes of beauty—viz., a fitness for the purpose it is intended to subserve; and if in itself not beautiful it enshrines what is *par excellence* "a thing of beauty and a joy for ever." It enshrines, it is pervaded by, the spirit of truth—truth which serves both as a lamp to illumine and as a beacon to direct, and yet which shines with a pure and steady ray on those alone who seek to follow it in singleness of purpose. The work performed accords most aptly with Matthew Arnold's description of the work of nature. "Toil unsevered from tranquillity ..... Labour that in lasting fruit outgrows far noisier schemes, accomplished in repose, too great for haste, too high for rivalry." And though it must be granted that the methods of the laboratory, like those of nature, are occasionally harsh, it must also be conceded that its results are useful and its aims beneficent. But even into this paradise of toil there enters or may enter one insidious sin—the lust of what is called "priority." This must be fought against and overcome, or else, like a gathering cloud, it will, if left unchecked, roll onwards and most surely darken all. And why should it not be fought against and overcome? Each fact discovered in the pursuit of knowledge, discovered it matters not by whom or when, and even when unimportant in itself, may prove a stepping stone by which that knowledge mounts to other and far higher things. This is the worker's real recompense; it is this pregnant possibility which makes work, honest work, like virtue, its own great reward.

But to proceed, some of you may be inclined to ask how, if what I have said respecting the relation of drugs to the organism and of the organism to drugs be true, there can possibly be different systems of administering medicines. By whatever name you call your method of giving drugs you must be guided in the act by one of two principles, the rational or the empirical; and the difference between these is soon illustrated. Suppose that to a weak anæmic patient with relaxed arteries, unable to sleep because when he lies down the blood pours too freely through the dilated vessels to the brain, you give digitalis and iron, you will probably brace up the arteries, and by removing the condition on which the insomnia depended you will succeed in inducing sleep. You will then have acted rationally. But if in such a case you simply give a hypnotic, chloral hydrate, morphine or some other, you will procure sleep it is true; your patient may be satisfied—nay, even thankful—and perhaps so satisfied that he may repeat the dose, and this not once only, but many times, until he has at last acquired the narcotic habit. I need not tell you that in this case the prescription will have been both empirical and wrong. It is possible, however, that a prescription may be at the same time empirical and right, for so long as the mode of action of a drug is not understood, the drug, if given at all, must be administered empirically. Quinine, e.g., was given advantageously in malarial disease long before either its power of checking protoplasmic movement was understood and even before the protoplasmic parasite of the blood corpuscles in ague had been discovered. Facts such as these, however, afford no excuse for sinning against light, but should, on the contrary, stimulate us to contribute something to the increase of the knowledge which, in proportion as we gain it, tends to raise us from the level of the charlatan to the plane of the philosopher.

To turn to the future of pharmacology: not only is the physiological action of a substance influenced by the nature of the elements it contains, the number and proportion of these, and on the particular manner in which they are grouped within the molecules, but this action may in many cases be modified in a definite direction at will. A convulsing substance like strychnine may, for example, be converted into a paralysing one, and a sedative such as morphine may be changed to one which will tend to excite convulsions by the mere introduction of an alcohol radical. These and many other kindred facts present to the mind of the pharmacologist a definite goal—viz., the point at which a knowledge of the physical properties, of the chemical composition and of the chemical structure of a substance, will enable him to predict the nature and extent of its value as a drug. The goal is distant, perhaps may never be attained, but so long as there is progress towards it the path being followed cannot be a wrong one, and I would now in place of my former definition of pharmacology describe it as physiology, extending its borders in a special direction, and proposing to itself a new problem—viz., the problem of the

relation of chemical structure to physiological action; remembering, however, at the same time, that physiology, deprived of the support which it now obtains from chemistry and physics, would be reduced from the condition of a growth deeply rooted and widely spreading to that of a hollow and decaying trunk.

Finally, I am concerned not only with pharmacology but also with the teaching of it. This suggests a thought in connexion with the subject of instruction in general and I address myself now more particularly to my pupils.

Cowper says of knowledge and wisdom that "far from being one they have ofttimes no connexion," and a similar caution may perhaps be not altogether out of place respecting instruction and education. The one is as devoid of life as the other is instinct with vitality, and it may be asked, What is the vital spark which transforms the dead, dry bones of instruction into that living, radiating something which we recognise as education? It is nothing less than thinking—thinking in the sense of the third and highest mental operation of the logician. You and I may lack the richness of endowment of a Newton or a Darwin, but we possess, though in a less degree, the faculties which made them great. The conceptions of "the divinely-gifted man," grand as they often are, spontaneous though they sometimes seem, like yours and mine are the outcome of previous thought. We read of the soul of things—not of persons only, but of things. This soul embraces much which is beyond our ken; but it includes amongst others this, the relation of things to other things; and without accepting the proposition that "everything is in everything" we must admit that all things have some sort of relation to each other, and in proportion as we can grasp such relations will any knowledge we acquire be valuable to ourselves and potentially useful to others. Now, in order to help you in fitting yourselves to acquire, each within the limits possible to him, an aptitude for perceiving these relations I should like to give you a suggestion. Some men never travel without a Bible, others without a copy of a poet or some other favourite author. I would say to you, not only travel, but live, with some difficulty, some problem, which in your leisure moments you are always seeking to unlock, or rather with two such, one connected with, and one independent of, your special work. You may not solve the problems you propose, but you will solve others by the way. The habit will suggest to you not only subjects for reading but also materials for practical work; it will increase your knowledge; it will enlarge your judgment; it will widen your culture; it will drive *ennui* from your path, and it will be strange if at the end of your threescore years and ten you have not valid ground for feeling that the world is in some degree the better for your life. I will now conclude, and I think I cannot do so better than in altering somewhat a line of a late distinguished professor of this university and saying—Think clear, see deep, and you will bear fruit well.

## SOME RESULTS OF OPEN-AIR TREATMENT OF PHTHISIS AT BOURNEMOUTH.[1]

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Two years ago I had the honour of bringing to notice the systematised treatment of phthisis in the open-air as pursued on the continent and in America. The treatment of phthisis by abundance of fresh air had undoubtedly long been the practice of some medical men, both in Bournemouth and elsewhere, but it seemed desirable to point out how well adapted Bournemouth was for the establishment of properly equipped sanatoria in which the treatment could be carried out in its entirety. Since then several such establishments have been started in this neighbourhood, two of them the houses of medical men, Dr. Pott and Dr. Johns, two of them hotels, and it seemed to me that this would be a good opportunity for bringing together the results of the treatment both in these places and in the various lodging- and boarding-houses in which it has been practised as thoroughly as possible under the circumstances. I have myself some notes of a few cases which I have seen, for the most part in consultation with other medical men, and I have put them together in the hope that others will bring forward similar cases, so that we may have an insight into the mode of working of the method, and thus be in a position to judge as to its efficacy.

Before bringing forward these notes, however, it may be desirable to discuss the question of what circumstances are essential for this mode of treatment. In the first place, neither a particular latitude on the earth's surface nor any great altitude can be considered absolutely necessary. Of the more important sanatoria on the continent some are placed at high altitudes, others almost at the sea level. As Dr. Léon-Petit points out, "1850 mètres and 35 mètres above the sea level are the two extreme limits represented by Arosa and Malchow, and other sanatoria are placed at various intermediate degrees in the scale of altitude." Some of them are installed in the severe climates of Silesia and Saxony, others on the foggy banks of the Rhine, one at least in a valley of the Black Forest, and several on high plateaus, amongst long-enduring snow, but where the atmosphere is pure and sunny. Each of these places has its advantages and disadvantages, but all of them can show a fair proportion of cures. In a recent paper[2] Professor von Ziemssen discusses this question and passes in review the relative merits of high and ordinary altitudes. He concludes that the only advantages in favour of mountain climates are "the pure, dry air, the slight wind in winter." He then points out the disadvantages of treatment at high altitudes. Marked atmospheric changes occur not unfrequently (wind, rain, snow) and are injurious to the patient. They make the acclimatisation of many patients difficult, and patients with high temperatures, especially those who do not reside in the sanatoria, may become decidedly worse. Other objections are the wearisome journey with all its bad effects, the separation from the family, the comfortless conditions in severe illness and in case of death; further, the financial anxiety and the economy necessitated. All these have a bad effect upon the patient. When the advantages and disadvantages are compared, the former are not so clear as to indicate the unconditional recommendation of treatment at high altitude.

I cannot resist the temptation also to quote Dr. Walshe in his excellent work on "Diseases of the Lungs" (p. 385): "No climate will stamp out phthisis, wherever acquired, either in the individual or in the stock. To imagine that there exists a specific power in any combination of atmospheric conditions, to stop the evolution of local mischief and eradicate the tuberculous diathesis, is not a whit less illusory than the people's creed, which ascribes sovereign virtues to 'native air.' But climate may, and does, prolong the existence of the phthisical. It does this, either by modifying nutrition and vitality in the mass, or by lessening the activity, perhaps warding off the occurrence of certain secondary states (say bronchitis, hæmoptysis) which might of themselves have proved the real causes of death. In either fashion climate takes its occasional share in bringing about the nearest approximations to real cure therapeutically obtainable."

The attributes which a climate intended for open-air treatment ought to possess are thus laid down by Dr. Léon-Petit and may be found in certain localities in almost every country. "The best climate is that which restricts the least the daily duration of the stay of the patient in the open air." 1. It is obvious that pure air is indispensable and therefore that we must avoid proximity to large towns or of factories giving forth soot, dust, or deleterious gases. 2. The soil upon which the sanatorium is to be built should be sandy, without damp, and affording the smallest possibility of fog after sunset. Plains well exposed to the south or broad valleys fully open to the sun are particularly favourable on condition that they are sheltered by hills against north and north-west winds. "The immediate neighbourhood of a forest of pines is likewise very desirable both as a purifier of the air and as a shelter in summer against the heat, and in bad weather against the wind." 3. The phthisical patient must not feel himself to be in a barrack or in a prison; he should have before his eyes something better than walls. An extensive view exercises upon both mind and body a reflex action that is most beneficial. An elevated site, and gentle slope from it, is therefore indicated. Well provided

[1] A paper read before the Bournemouth Medical Society on April 20th, 1898.

[2] Münchener Medicinische Wochenschrift, No. 1, 1898.

*Table showing Results of Open-air Treatment of Seventeen Phthisical Cases.*

| No. | Sex. | Age in years. | Duration of treatment. | Periods of fever. | Gain or loss of weight. | Remarks | Result. |
|---|---|---|---|---|---|---|---|
| 1 | M. | 29 | 2 years. | None. | + 28 lb. | Third stage; both sides. | Great improvement; quiescent 18 months. |
| 2 | F. | 23 | 2½ years. | 3 weeks. | + 28 lb. | Third stage; both sides. | Great improvement; quiescent 2½ years. |
| 3 | F. | 21 | 6 months. | 2 weeks. | + 8½ lb. | Third stage; left apex. | Quiescent for 3 years. |
| 4 | M. | 22 | 2 years. | None. | + 9½ lb. | First stage; left side. | Quiescent 2 years. |
| 5 | M. | 18 | 1½ years. | 3 weeks and 2 weeks. | + 19 lb. | Second stage; right side. | Quiescent 15 months. |
| 6 | F. | 28 | 4 months. | 10 days. | + 5 lb. | Second stage; right side. | Improvement. |
| 7 | M. | 45 | 6 months. | 2 or 3 of 1 week. | Gain of 7lb. at first; now varies. | Second stage, advancing to third. | Temporary improvement. |
| 8 | M. | 27 | 4 months. | 1 week. | + 10 lb. | Second stage; right apex. | Quiescent 1 year. |
| 9 | F. | 26 | 3 months. | — | — | Third stage; right apex. | Temporary improvement; lost sight of. |
| 10 | F. | 35 | — | 2 periods of 2 weeks. | — | Third stage. | Quiescent 15 months. |
| 11 | F. | 30 | 6 months. | None. | — | First stage; right apex. | Quiescent 5 months. |
| 12 | M. | 23 | 6 months. | Several attacks. | — | Third stage; both sides. | Temporary improvement for 3 months; disease progressing afterwards. |
| 13 | F. | 34 | 6 months. | 1 week; 4 slight attacks. | +6 lb. in 6 weeks. | Third stage; both sides. | Quiescent 4 months. |
| 14 | F. | 49 | 4 months. | 3 or 4 days. | +9 lb. in 2 months. | Third stage; right side. | Quiescent 4 months. |
| 15 | F. | 24 | 6 months. | 2 weeks. | + 11½ lb. | Second stage; right side. | Quiescent 4 months. |
| 16 | F. | 16 | 15 months. | Several attacks. | + 12 lb. | Third stage; both sides. | Quiescent 6 months. |
| 17 | M. | 4 | 2 years. | Many months. | — | Doubtful cavity right apex; whole lung consolidated. | Recovered. |

*Table added by Dr. Francis Pott and showing Results in Four other Cases. The diagnosis was confirmed by bacillary search.*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 18 | M. | 28 | 36 days. | None. | + 12½ lb. | Old mischief quiet, right apex; second stage, left apex and scapular. | Stay only long enough to teach patient to live. |
| 19 | M. | 36 | 85 days. | 3 weeks. | + 21 lb. | Cavity small, right supra-scapular; second stage, left subclavicular. | Cough and expectoration ceased. Immense improvement maintained now 10 months. |
| 20 | F. | 34 | 100 days. | Continuous. | + 6¾ lb.; subsequently lost | Mixed infection; active cavities both chests. | Sudden death; syncopal; no œdema. |
| 21 | M. | 31 | 120 days. | 99° F., evening; 9 weeks. | + 14 lb. | Absolutely fixed chest; scattered active mischief both sides. | Relative improvement maintained 8 months in spite of return to clerical duties. |

with fresh water, if possible from a spring, it should be sufficiently extensive to afford a large garden, or better still a park, surrounding the building. 4. The access to a sanatorium for phthisical patients should be as easy as possible, and it should not therefore be far from a railway station, and the roads in the neighbourhood should be in good order. I need scarcely point out how entirely all these conditions are fulfilled at Bournemouth and in its immediate neighbourhood.

Dr. Léon-Petit has also some excellent remarks upon the best form of construction of a sanatorium, with its dormitories, verandahs, kiosks, the best modes of ventilating without draught, heating, cleaning, &c., but we have not now to deal with these subjects. It is of more importance to consider the management of the patient and the attitude towards him of his medical attendant. A few points relating to these subjects may perhaps be discussed with advantage. In the paper already mentioned I ventured to point out that as regards the patients the treatment involves (1) for many of them rest in the recumbent posture for the greater part of the day, generally in open verandahs or shelters, sometimes in the open grounds; (2) careful but full feeding; (3) "massage" in certain cases; (4) in others carefully graduated exercises; (5) the judicious use of baths or cold sponging; (6) the provision of suitable amusements; and (7) appropriate medicinal treatment. In all these things the constant supervision of the medical attendant is absolutely necessary; upon him also depends the gradual education of the patient to the new *régime* and the infusion into him of a cheerful and hopeful state of mind.

I should like again to dwell a little on the importance of the *rôle* of the medical man. The hygienic rules for the treatment of a phthisical patient are simple enough; but their application to each case is often difficult and delicate. In the first place the physician should have full faith in the efficacy of this method for the cure of a large proportion of the cases; without this he can hardly inspire the necessary confidence not only in the patient but also in his attendants. These last are often the most difficult to convince. In the next place he should have sufficient knowledge of the extent of the disease and of the temperament of the phthisical patient to enable him to arrive at something like a just prognosis, so that he may be able to speak hopefully to some and to warn others, or rather their friends, of the gravity of the case. In every case it must be remembered that whilst phthisis is certainly curable, at any moment it may become incapable of anything more than alleviation. There are not a few cases in which the disease runs its course of destruction almost without a break, even when they are placed under the most favourable circumstances. It is important that these cases should be recognised from the outset, if possible, and the friends warned not to expect too much from the treatment. On the other hand, there are not a few cases of advanced disease in which the occurrence of periods of quiescence gives some hope of permanent improvement. We can probably all of us remember persons who have attained advanced ages who had been in their youth condemned to death as "consumptives." In every suitable case the physician should know how to inspire hopefulness. As Voltaire has said, "The hope of cure is already half the cure." Very often under the open-air treatment this hopefulness is encouraged, and to some extent justified, shortly after its commencement. In most cases, after the first few weeks of the treatment, the fever disappears, the night sweats are arrested, the cough ameliorates, and owing to the rest and abundant feeding the weight increases. Instances of cure in apparently hopeless cases judiciously cited by the medical man also serve sometimes to enhearten a despairing patient.

I would again emphasise what I said in my former paper

as to the need of constant supervision of the phthisical patient, by his medical attendant. It is required at every part of the treatment. It is particularly necessary in the early stages of the process, when the patient has to be gradually acclimatised to the open air and when the greatest tact has to be used to overcome his prejudices and to combat the constant fear of catching cold or of taking "a chill." The aim is to have perfectly pure air everywhere about the patient day and night, but the air of an inhabited chamber is seldom absolutely pure, as may be judged from the fact that it so rarely contains free ozone. Even with the windows wide open ozone cannot often be detected within it. In the daytime, therefore, it must be our object to have the invalid either in the open or lying down in an open verandah or kiosk for as long a time as possible. In the night-time we have to be satisfied with windows as widely opened as the degree of velocity of the wind will permit. With most patients these objects can only be attained by gentle measures and they have to be led judiciously towards their full attainment, carefully screened from all sensation of draught and thoroughly protected by suitable clothing. When their education in this respect is completed it is remarkable how well they bear exposure to the coldest air and how greedily they seek for it of their own accord. The dread of taking cold soon vanishes when they find how rarely this accident happens in the open air.

The extent to which the patient must assume the recumbent position has also to be carefully regulated. There are some to whom it is only needful for about an hour after each full meal. Others have to lie down most of the time they are in the open, as it is found that they cannot be kept thoroughly warm in any other position. Many of these latter persons have in addition to be submitted to massage in order to keep up muscular tone and to assist nutrition. The amount of exercise and its nature have to be prescribed and its effects watched by the medical attendant, and the amusements permissible have to be rigorously laid down. Whilst the fullest feeding possible has to be aimed at the particular diet each invalid can most readily take and profit by has to be ascertained and the cooking sedulously attended to. Dettweiler's saying, "*Ma cuisine c'est ma pharmacie*," must be taken very seriously. Wonderful results have been obtained by the "stuffing" processes of Debove and Walther, but our aim should be true physiological feeding, an endeavour to nourish the body to the utmost, without overtaxing the eliminatory organs. This object can only be attained by watchful supervision. Baths and bathing also need discrimination in their application, but so applied they are often of great service in carrying out this treatment.

Lastly, without unduly exalting medicinal treatment I am of opinion that it also requires careful study to adapt it to each case. The routine practice of simply ordering a few capsules of creasote or guaiacol, or certain small doses of their carbonates, cannot be said to fulfil all our obligations in this regard. It is for these reasons that I venture to urge upon all general practitioners who have phthisical patients under their charge a very constant attendance upon their invalids and an active interest in their daily management. Without this it cannot be said that the open-air treatment of phthisis, as inaugurated by Dr. Brehmer, has been thoroughly carried out, and not a few failures, such as we have seen returning from Davos and other health resorts, will often be found to have taken place in consequence of shortcomings in the necessary discipline and supervision.

The few patients whom I have been able to induce to try open-air treatment, which I have now to bring before notice, have been, for the most part, under the charge of medical men who have adhered more or less completely to the conditions just formulated. They are only 17 in number, but in all but 2 they were ascertained to be tuberculous by the "bacillus search." In the two cases no sputum was obtainable and one of them was a child, aged four years, with signs of a cavity at the apex of an entirely consolidated lung. This may have been non-tuberculous.[3] The period of time during which they have been under observation is too short to justify any conclusions as to the likelihood of complete cure; it is only possible to point to evidences of improvement in their general condition and of, at any rate temporary, quiescence of the disease. A number (6 or 7) of obviously hopeless cases, in which the disease progressed from bad to worse, but in which from the outset some degree of open-air treatment was tried, have been omitted from the list; but it may be mentioned that even in these cases there was apparent some amelioration in their condition from the use of abundant aeration. It will be found from the Table, in which I have summarised the more complete cases, that 2 of them gained about 28 lb. in weight during the treatment; 1 gained 19 lb.; 9 others gained weights varying from 5 lb. to 12 lb.; 1 was stationary, and of 4 the weight was not taken. In 7 cases the disease is quiescent now and has been for periods of from one year to two and a half years. Most of these may probably be put down as deserving of Dettweiler's designation of "relative cures." 5 others are also now quiescent and have been quiet for periods of from four to six months, and these must still be regarded as under suspicion; 1 is simply noted as having improved, and 3 as having improved for a time and then relapsed, the disease now progressing. The child mentioned as being a doubtful case has now entirely recovered. As I have already remarked these results are still inconclusive, but so far as they go they seem favourable to a more prolonged trial of the system. They compare favourably with the results which we were in the habit of obtaining from the older methods of treatment, combined simply with free ventilation, without such systematic exposure to the open air. They are at least not less favourable than those reported from the various sanatoria on the continent.

Bournemouth.

[3] 10 showed signs of excavation, 5 were in the second stage and 2 were in the first.

## AN IMPROVEMENT IN COLOTOMY.[1]

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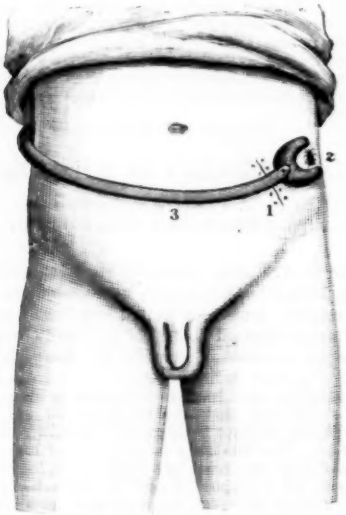
SINCE Mr. H. A. Reeves published his first cases of iliac colotomy in 1882 there has been a continuous improvement in general results. Numerous suggestions have been made, some of which have stood the test of time and prevail whilst others, having contributed towards the evolution of the present practice, have dropped out of use. To judge from such opportunities as I have of observing general surgical results I should say that the operation of colotomy in ordinary hospital practice is very much more successful than it used to be. The mortality is probably as low as under present conditions we have any right to expect and the inconvenience of prolapsed bowel is much less frequent. There still remains, however, the drawback that the patient has practically no control over the act of defecation. Even when the motions are well formed and the bowels are moved only once a day that motion must be passed, no matter how inconvenient the occasion, whenever reflex contractions occur in the colon. At various times I have had trusses made for colotomy patients, but whether designed to relieve prolapse or unconscious defecation they have never been a genuine success. In the matter of control the artificial anus resulting from colotomy is not only greatly inferior to the natural orifice but is much less perfect than the artificial anus obtained after excision of the rectum. The most complaisant operator will probably allow that there is room for improvement in this direction.

The suggestion I have to make is the adoption for colotomy of the principle introduced by Hahn into the operation of gastrostomy and now, as slightly modified by Frank, commonly used in that operation. The principle is that a portion of the viscus is withdrawn from the abdomen by a direct wound, attached to the deeper part of this wound, and then passed under the superficial tissues and opened on the surface at a distance. This method of performing gastrostomy is most successful in preventing leakage of the contents of the stomach and it appeared to me that it might prove equally valuable as applied to the colon. The plan adopted is as follows. An incision is made at the usual site in the line of the internal oblique fibres. The sigmoid is withdrawn and attached to the deep part of the wound by one or two sutures only and it is then passed directly backwards for about 2 in. to 2½ in. between the external and internal oblique muscles, where it is brought to the surface, opened and sutured, the original wound being completely closed

[1] Abstract of a paper read before the St. Helen's Medical Society on Feb. 11th, 1898.

I have operated on three cases, on two as above, but in the third case by dividing the bowel, the rectal end being brought out at the lower end of the original wound, and the upper end being passed between the tissues and brought out posteriorly. The artificial anus in this case was a very good one, but the other opening emitted a foul discharge from the cancer which did not yield to treatment, and was more unpleasant than when such discharge is passed *per anum*. Division of the bowel considerably increases the severity of the operation, and I think I should only be inclined to practise it where there was a long expectation of life and in a case in which the sigmoid did not accommodate itself, owing to mesentery or bulk, to the other method. This operation appears to me to be a decided improvement on the ordinary colotomy. The artificial anus has a most natural look, but there does not seem to be, as I at first hoped there would have been, any natural control over the act of defecation. Whether the abdominal muscles could be trained to act in this way after a time I cannot say, but at any rate a truss applied as in the figure with a horseshoe




An improved colotomy. 1, The original wound closed. 2, The artficial anus. 3, Salmon and Ody truss with horseshoe pad.

pad seems to act admirably. It compresses the bowel where it runs in the abdominal wall, and quite prevents the escape of fæces until it is removed. This operation takes rather longer than a simple iliac colotomy, but it is not at all severe. Two of the patients were old men with advanced cancer of the rectum and both stood the operation well. The third patient was a woman with incurable syphilitic stricture; she has, I hope, many years to live. It is certainly an advantage that by this method the bowel may be opened at once without any fear of contaminating the peritoneum. The devious track and the ease with which the distant orifice can be perfectly and closely sutured to the skin remove all danger on this score. For some years I have always opened my colotomies at once through a glass tube, but am glad to feel that it is quite safe to return to the old plan of completing the operation outright. At the same time I would not advise the adoption of this method in all cases, and as a matter of fact have not used it in the last two. When the mesentery is very short it would not often be desirable to divide the bowel, as would be necessary under those circumstances, nor could this operation be conveniently performed in any but the sigmoid region. In cases of complete obstruction with distension, also, the glass tube method would generally be preferable; but, after all, the vast majority of colotomies are performed in the sigmoid region and upon patients with sufficient stamina and sufficiently long mesenteries to render the operation, as I have described it above, quite feasible.[2]

Liverpool.

[2] A fourth case recently completed has proved quite successful with the help of the truss.

# THE VALUE OF CERTAIN DRUGS IN THE TREATMENT OF GOUT.

BY ARTHUR P. LUFF, M.D., B.Sc., F.R.C.P. LOND.,
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TWO methods of treating gout, and especially chronic gout, have for some time past been more or less employed by medical men. They are treatment by means of alkalies and treatment by means of salicylates. As far as I can discover these methods of treatment both originated from the supposition that uric acid is present as such in the fluids and deposits of gouty subjects and that this uric acid was rendered soluble and was therefore removed from the system both by alkalies and by salicylates. It is now well known that uric acid is always present in gouty subjects either in the form of sodium quadriurate or biurate. It is also well known that the chemical and physical properties of both these substances are entirely different from those of uric acid. As it therefore appeared to me that the object of employing alkalies and salicylates in gout originated in a misconception, and as I have for some time believed that both these methods of treatment are wrong in principle and in action, I thought it desirable to submit the matter to experimental investigation.

## REASONS FOR BELIEVING THE TREATMENT OF GOUT BY ALKALIES TO BE ERRONEOUS.

The treatment of gout by alkalies is mainly based on the assumptions that uric acid is present as such in the blood and tissues and is rendered soluble by the administration of alkalies, that uratic deposits of sodium biurate are dissolved by alkalies, and that the system of a gouty person is pervaded by a general acidity which is neutralised and removed by alkalies. It will be seen that these assumptions do not stand the test of experimental inquiry. With regard to the first assumption, it is now well known that in gouty subjects uric acid is never present as such in the blood and tissues, but is always combined with sodium as the quadriurate or biurate. The only way in which alkalies could beneficially affect the quadriurate would be to delay its conversion into the biurate. In order to test this point I conducted a series of experiments so as to ascertain the effect of artificial blood serum to which different alkalies had been added on the decomposition of sodium quadriurate. In all the experiments the artificial blood serum employed was Sir W. Roberts's standard solution.[1] This was employed instead of blood serum in order to obviate the objections which have been raised to the use of blood serum in such experiments—viz.,—The tendency to variations in its alkalinity. Moreover, as shown by Sir W. Roberts, this standard solution reacts with uric acid and with the quadriurates and biurates in the same manner as blood serum itself.

## OBJECTS OF CONDUCTING THE EXPERIMENTS WITH SODIUM QUADRIURATE.

These experiments were undertaken in order to ascertain whether any of the drugs ordinarily employed in the alkaline treatment of gout possess any power when introduced into the circulation of restraining the precipitation of sodium biurate from the quadriurate contained in the blood. Such experiments would show whether any such drugs would be of use either in delaying or partially arresting an attack of gout or in lessening the formation of gouty deposits. When sodium quadriurate is mixed with water it is decomposed into a uric acid moiety and a sodium biurate moiety, the uric acid appearing immediately it is set free in the form of ovoid or spindle-shaped crystals. These crystals appear in a very short time after the contact of the quadriurate with water—generally in from one to five minutes—whilst the sodium biurate passes into the gelatinous form, which, if sufficient water be present, is dissolved. If instead of water an alkaline medium be employed to decompose the quadriurate, such as blood serum or artificial blood serum at the temperature of the human body, then as long as free alkaline carbonate is present the uric acid moiety of the quadriurate, instead of crystallising out as uric acid,

[1] Croonian Lectures, 1892, p. 76.

unites with the sodium carbonate to form sodium biurate, which first assumes the amorphous form. After a time this amorphous biurate becomes gradually converted into the needles of the crystalline biurate. The time therefore which elapses between the saturation of the blood serum with sodium quadriurate and the first appearance of needle-shaped crystals of sodium biurate represents the inhibitory influence of the medium on the crystalline precipitation of sodium biurate. The experiments were conducted in the following manner.

### METHOD OF CONDUCTING THE EXPERIMENTS WITH SODIUM QUADRIURATE.

Ten milligrammes of sodium quadriurate were well rubbed with ten drops of a 0·1 per cent. solution of the drug in artificial blood serum and the mixture was then placed in a small corked tube and kept at 103° F. Every half hour a small quantity of the mixture was removed and examined under a high power of the microscope and the time at which crystals of the sodium biurate first appeared was noted. A similar experiment, for purposes of comparison, was made with the quadriurate and artificial blood serum alone. I experimented separately in this way with potassium bicarbonate, potassium citrate, lithium carbonate, lithium citrate, sodium bicarbonate, sodium phosphate, piperazine, and lysidine. The results are shown in the following table:—

TABLE I.—*Showing the Influence exerted on the Decomposition of Sodium Quadriurate by Artificial Blood Serum alone and by Artificial Blood Serum containing 0·1 per cent. of Various Drugs in Solution.*

| Solvent. | Sodium biurate crystals appeared after the lapse of— |
|---|---|
| Artificial blood serum ... ... ... ... ... ... ... ... | Two hours. |
| Ditto, containing 0·1 per cent. potassium bicarbonate | ,, |
| ,, ,, ,, potassium citrate ... | ,, |
| ,, ,, ,, lithium carbonate ... | ,, |
| ,, ,, ,, lithium citrate ... ... | ,, |
| ,, ,, ,, sodium bicarbonate ... | ,, |
| ,, ,, ,, sodium phosphate ... | ,, |
| ,, ,, ,, piperazine ... ... ... | ,, |
| ,, ,, ,, lysidine ... ... ... ... | ,, |

These results show that none of the drugs mentioned in the table exercise the slightest effect in delaying the conversion of the quadriurate into the biurate even when present in far larger proportions than can possibly be introduced into the blood by the medicinal administration of these drugs.[2] Therefore it appears that the treatment of gout by alkalies and salts of the alkalies does not delay the conversion of the quadriurate into the biurate.

### DOES THE TREATMENT OF GOUT BY ALKALIES INCREASE THE SOLUBILITY OF SODIUM BIURATE?

With regard to the second assumption, that the administration of alkalies increases the solubility of the biurate deposited in the joints and tissues, Sir W. Roberts has shown that sodium bicarbonate and sodium phosphate diminish the solubility of sodium biurate, while potassium bicarbonate exercises no influence whatever on its solubility. He fails to find any direct object in the administration of alkalies for gout, and he has seen gouty attacks recur with full severity when the urine has been for a long time maintained persistently alkaline by the administration of bicarbonate and citrate of potassium. That the administration of alkalies might increase the solubility of the biurate appeared at one time to be probable from the results of some experiments performed by Sir A. Garrod. He immersed small pieces of cartilage infiltrated with sodium biurate for forty-eight hours in aqueous solutions of the carbonates of lithium, potassium, and sodium respectively. At the end of that time he found that the cartilage immersed in the lithium solution was restored to its natural condition; that in the potassium solution was much acted upon, while that in the sodium solution appeared to be unaltered. These results are somewhat in opposition to those of Sir W. Roberts and as neither the experiments of Sir A. Garrod nor those of Sir W. Roberts represent the conditions under which alkalies when introduced into the circulation would act on sodium biurate, I thought it desirable to reinvestigate the subject as far as possible under such conditions.

### INVESTIGATIONS OF THE EFFECTS OF VARIOUS ALKALINE DRUGS ON THE SOLUBILITY OF SODIUM BIURATE.

These experiments were undertaken in order to compare the solubility at 100° F. of sodium biurate in artificial blood serum and in artificial blood serum containing different proportions of the various drugs. The experiments were carried out in a similar manner to that described in my Goulstonian lectures.[3] I experimented separately with the following drugs: potassium bicarbonate, potassium citrate, lithium carbonate, lithium citrate, sodium bicarbonate, sodium phosphate, piperazine, and lysidine. Much greater proportions of the drugs were employed than could possibly be introduced into the blood by medicinal administration. The results are shown in the following tables:—

TABLE II.—*Showing the Solubility at 100° F. of Sodium Biurate in Artificial Blood Serum alone and in Artificial Blood Serum containing Different Proportions of Potassium Bicarbonate.*

| Solvent. | Sodium biurate dissolved. |
|---|---|
| Artificial blood serum ... ... ... ... ... ... ... ... | 0·11 per 1000. |
| Ditto, containing 0·01 per cent. potassium bicarbonate | 0·10 ,, |
| ,, ,, 0·10 ,, ,, ,, | 0·10 ,, |
| ,, ,, 0·20 ,, ,, ,, | 0·11 ,, |

These results show that potassium bicarbonate would not in the slightest degree increase the solvent power of the blood for gouty deposits.

TABLE III.—*Showing the Solubility at 100° F. of Sodium Biurate in Artificial Blood Serum alone and in Artificial Blood Serum containing Different Proportions of Potassium Citrate.*

| Solvent. | Sodium biurate dissolved. |
|---|---|
| Artificial blood serum ... ... ... ... ... ... ... ... | 0·11 per 1000. |
| Ditto, containing 0·01 per cent. of potassium citrate | 0·10 ,, |
| ,, ,, 0·10 ,, ,, ,, | 0·10 ,, |
| ,, ,, 0·20 ,, ,, ,, | 0·11 ,, |

These results show that potassium citrate would not in the slightest degree increase the solvent power of the blood for gouty deposits.

TABLE IV.—*Showing the Solubility at 100° F. of Sodium Biurate in Artificial Blood Serum alone and in Artificial Blood Serum containing Different Proportions of Lithium Carbonate.*

| Solvent. | Sodium biurate dissolved. |
|---|---|
| Artificial blood serum ... ... ... ... ... ... ... ... | 0·11 per 1000 |
| Ditto, containing 0·005 per cent. of lithium carbonate | 0·11 ,, |
| ,, ,, 0·01 ,, ,, ,, | 0·11 ,, |
| ,, ,, 0·10 ,, ,, ,, | 0·15 ,, |

These results show that lithium carbonate would not in the slightest degree increase the solvent power of the blood for gouty deposits even when present in far larger proportions than could be introduced into the blood by medicinal administration. Lithium salts are usually given in doses of 1 gr. to 5 gr. three times a day, whereas to get 0·01 per cent.

[2] In order to have 0·1 per cent. of any drug in the blood it would be necessary to introduce 600 gr. of that drug at once into the circulation of an adult man of average weight.

[3] THE LANCET, April 17th, 1897, p. 1073.

of a lithium salt into the blood it would be necessary to introduce 60 gr. of the salt at once into the circulation of an adult man of average weight.

TABLE V.—*Showing the Solubility at 100° F. of Sodium Biurate in Artificial Blood Serum alone and in Artificial Blood Serum containing Different Proportions of Lithium Citrate.*

| Solvent. | Sodium biurate dissolved. |
|---|---|
| Artificial blood serum ... ... ... ... ... ... ... ... | 0·11 per 1000 |
| Ditto, containing 0·005 per cent. of lithium citrate ... | 0·11 ,, |
| ,, ,, 0·01 ,, ,, ,, | 0·11 ,, |
| ,, ,, 0·10 ,, ,, ,, | 0·11 ,, |

These results show that lithium citrate would not in the slightest degree increase the solvent power of the blood for gouty deposits.

TABLE VI.—*Showing the Solubility at 100° F. of Sodium Biurate in Artificial Blood Serum alone and in Artificial Blood Serum containing Different Proportions of Sodium Bicarbonate.*

| Solvent. | Sodium biurate dissolved. |
|---|---|
| Artificial blood serum ... ... ... ... ... ... ... ... | 0·11 per 1000 |
| Ditto, containing 0·01 per cent. of sodium bicarbonate. | 0·10 ,, |
| ,, ,, 0·10 ,, ,, ,, | 0·09 ,, |
| ,, ,, 0·20 ,, ,, ,, | 0·08 ,, |

These results show that sodium bicarbonate would slightly decrease the solvent power of the blood for gouty deposits.

TABLE VII.—*Showing the Solubility at 100° F. of Sodium Biurate in Artificial Blood Serum alone and in Artificial Blood Serum containing Different Proportions of Sodium Phosphate.*

| Solvent. | Sodium biurate dissolved. |
|---|---|
| Artificial blood serum ... ... ... ... ... ... ... ... | 0·11 per 1000 |
| Ditto, containing 0·01 per cent. of sodium phosphate | 0·11 ,, |
| ,, ,, 0·10 ,, ,, ,, | 0·11 ,, |
| ,, ,, 0·20 ,, ,, ,, | 0·11 ,, |

These results show that sodium phosphate would not in the slightest degree increase the solvent power of the blood for gouty deposits.

TABLE VIII.—*Showing the Solubility at 100° F. of Sodium Biurate in Artificial Blood Serum alone and in Artificial Blood Serum containing Different Proportions of Piperazine.*

| Solvent. | Sodium biurate dissolved. |
|---|---|
| Artificial blood serum ... ... ... ... ... ... ... ... | 0·11 per 1000 |
| Ditto, containing 0·01 per cent. of piperazine ... ... | 0·09 ,, |
| ,, ,, 0·10 ,, ,, ... ... | 0·11 ,, |
| ,, ,, 0·20 ,, ,, ... ... | 0·13 ,, |

These results show that piperazine would not in the slightest degree increase the solvent power of the blood for gouty deposits even when present in far larger proportions than could be introduced into the blood by medicinal administration. Piperazine is usually given in doses of 5 gr. three times a day, whereas to get 0·10 per cent. of piperazine into the blood it would be necessary to introduce 600 gr. of the drug at once into the circulation of an adult man of average weight.

TABLE IX.—*Showing the Solubility at 100° F. of Sodium Biurate in Artificial Blood Serum alone and in Artificial Blood Serum containing Different Proportions of Lysidine.*

| Solvent. | Sodium biurate dissolved. |
|---|---|
| Artificial blood serum ... ... ... ... ... ... ... ... | 0·11 per 1000. |
| Ditto, containing 0·01 per cent. of lysidine ... ... ... | 0·09 ,, |
| ,, ,, 0·10 ,, ,, ... ... ... | 0·10 ,, |
| ,, ,, 0·20 ,, ,, ... ... ... | 0·10 ,, |

These results show that lysidine would not in the slightest degree increase the solvent power of the blood for gouty deposits, even when present in far larger proportions than could be introduced into the blood by medicinal administration. Lysidine is given in doses of from 30 gr. to 120 gr. three times a day, whereas to get 0·20 per cent. of lysidine into the blood it would be necessary to introduce 1200 gr. of the drug at once into the circulation of an adult man of average weight.

## FURTHER EXPERIMENTS AS TO THE INFLUENCE OF POTASSIUM AND LITHIUM SALTS ON THE SOLVENCY OF GOUTY DEPOSITS.

As it appeared to me that the experiments of Sir Alfred Garrod, previously referred to, into the solvent effect of potassium bicarbonate and lithium carbonate on gouty deposits were scarcely comparable with what occur when these drugs are acting *viâ* the blood and other fluids of the body, I thought it desirable to repeat the experiments under different conditions. I therefore investigated the solvent action on gouty deposits of artificial blood serum impregnated with quantities of potassium bicarbonate and lithium carbonate respectively; the quantities of the drugs used were in excess of those which could be present in the fluids of the human body when full doses are being administered. The artificial blood serum impregnated with potassium bicarbonate contained 0·01 per cent. of that drug, which is equivalent to the introduction at once of 60 gr. of the drug into the circulation of an adult and the after maintenance of that amount in the circulation. The artificial blood serum impregnated with lithium carbonate contained 0·0015 per cent. of that drug, which is equivalent to the introduction at once of 10 gr. of the drug into the circulation of an adult and the after maintenance of that amount in the circulation. The experiments were carried out in the following manner.

A piece of cartilage well and uniformly infiltrated with sodium biurate which had been removed from a gouty joint at a post-mortem examination was divided into three equal pieces. One piece was suspended in a bottle containing 100 c.c. of artificial blood serum, the second piece in a bottle containing 100 c.c. of artificial blood serum impregnated with potassium bicarbonate, and the third piece in a bottle containing 100 c.c. of artificial blood serum impregnated with lithium carbonate. The bottles with their contents were kept throughout the experiments at the blood heat and every twenty-four hours fresh supplies of fluid were introduced, so that the first piece of cartilage was constantly bathed in artificial blood serum at the blood heat, the second piece in artificial blood serum impregnated with potassium bicarbonate, and the third piece in artificial blood serum impregnated with lithium carbonate. By this method of procedure it was considered, as regards any solvent effect that the drugs might exert on the gouty deposit, that the results would be fairly comparable with what occurs when potassium or lithium salts are medicinally administered. The pieces of cartilage were removed every twenty-four hours and examined by means of a lens and the experiments were continued until all the sodium biurate was dissolved out of the cartilage. The solution of the sodium biurate from the cartilage proceeded at the same pace in the three pieces and was in no way accelerated by the presence of the potassium bicarbonate or the lithium carbonate. The sodium biurate was completely dissolved from the three pieces of cartilage on the fifteenth day. These experiments indicate that the quantities of potassium bicarbonate and lithium carbonate which could by ordinary dosage be introduced into the fluids of the body can exercise no influence on the solvency of gouty deposits, and the results obtained

support the views of Sir William Roberts that potassium bicarbonate and lithium carbonate exercise no influence on the solubility of sodium biurate.

The net result of all these experiments is that the treatment of gout by alkalies or by piperazine or lysidine does not increase the solubility of the biurate deposited in the joints and tissues. Levison holds very similar opinions with regard to the alkaline treatment of gout. He considers that the administration of the ordinary alkalies, of lithium salts, or of piperazine, with the object of either dissolving sodium biurate or of preventing its deposition, is decidedly useless. He also found that the administration of piperazine exerts no influence upon the amount of uric acid excreted.

### A GENERAL ACIDITY OF THE SYSTEM NOT ASSOCIATED WITH GOUT.

The third assumption, that in connexion with gout there is a general acidity of the system which causes a diminished alkalinity of the blood, is opposed to the results of recent investigations on the subject. The experiments of Klemperer and my own experiments[4] show that the alkalinity of the blood of gout is but very little, if at all, diminished and that corresponding variations in the alkalinity of the blood may frequently be met with in healthy individuals. Moreover, the experiments previously published by myself[5] demonstrate that a diminution in the alkalinity of blood serum containing uric acid in solution does not facilitate the deposition of sodium biurate from it nor does a diminution in the alkalinity of blood serum diminish its solvent power for sodium biurate. It appears, therefore, that there is no ground whatever for the assumption that the treatment of gout by alkalies tends to neutralise a so-called general acidity of the system and so renders the blood a better solvent of gouty deposits.

### REASONS FOR BELIEVING THE TREATMENT OF GOUT BY SALICYLATES TO BE ERRONEOUS.

Just as the treatment of gout by means of alkalies is based on the entirely erroneous supposition that uric acid is present as such in the fluids and deposits of gouty patients, so the main reason for giving a salicylate in gout is based on the assumption that it unites with uric acid throughout the system and so effects its removal from the system and its elimination in the urine. That sodium salicylate does cause an increased elimination of uric acid in the urine, at all events in the early stages of its administration, is undoubted. This is shown by the following daily determinations which I made of the total uric acid excretion of a healthy man before, during, and after treatment with sodium salicylate. The diet was of the same nature throughout the experiments.

TABLE X.—*Showing the Daily Excretion on Successive Days of Uric Acid by a Healthy Man before, during, and after Treatment with Sodium Salicylate.*

| — | Daily excretion of uric acid in grammes. |
|---|---|
| Before taking salicylate | 0·547 |
| | 0·589 |
| | 0·731 |
| Average | 0·622 |
| Fifteen grains of sodium salicylate taken three times a day | 0·852 |
| | 0·942 |
| | 0·826 |
| | 0·734 |
| Average | 0·851 |
| Salicylate left off | 0·340 |
| | 0·581 |
| | 0·543 |
| | 0·677 |
| | 0·686 |
| Average | 0·565 |

That this increased elimination of uric acid is due, however, to the removal of ready formed uric acid stored in the system is, in my opinion, incorrect. In the first place it must be remembered that any uric acid deposited in any of the organs or tissues of gouty subjects is deposited in the form of sodium biurate, and the result of the following experiments shows that artificial blood serum, containing sodium salicylate in much greater proportions than could be introduced into the blood by the medicinal administration of the drug, has not the slightest increased solvent effect on the biurate.

TABLE XI.—*Showing the Solubility at 100° F. of Sodium Biurate in Artificial Blood Serum alone and in Artificial Blood Serum containing Different Proportions of Sodium Salicylate.*

| Solvent. | Sodium biurate dissolved. |
|---|---|
| Artificial blood serum | 0·11 per 1000 |
| Ditto, containing 0·003 per cent. of sodium salicylate | 0·11 ,, |
| ,, ,, 0·006 ,, ,, ,, | 0·11 ,, |
| ,, ,, 0·01 ,, ,, ,, | 0·11 ,, |
| ,, ,, 0·10 ,, ,, ,, | 0·11 ,, |

These results show that sodium salicylate would not in the slightest degree increase the solvent power of the blood for gouty deposits even when present in far larger proportions than could be introduced into the blood by medicinal administration. Sodium salicylate is usually given, in the treatment of gout, in doses of 15 gr. to 20 gr. three times a day; whereas to get 0·1 per cent. of sodium salicylate into the blood it would be necessary to introduce 600 gr. of the drug at once into the circulation of an adult man of average weight. Dr. J. Fawcett,[6] who likewise finds that sodium salicylate produces an increased uric acid excretion, considers it improbable that the increase can be explained by a mere clearing out of retained uric acid.

I also find that artificial blood serum containing sodium salicylate in far larger proportions than could be introduced into the blood by medicinal administration has no effect whatever in delaying the conversion of sodium quadriurate into the biurate, as is shown in the following table.

TABLE XII.—*Showing the Influence exerted on the Decomposition of Sodium Quadriurate by Artificial Blood Serum alone and by Artificial Blood Serum containing 0·1 per cent. of Sodium Salicylate in Solution.*

| Solvent. | Sodium biurate crystals appeared after the lapse of— |
|---|---|
| Artificial blood serum | Two hours. |
| Ditto, containing 0·1 per cent. of sodium salicylate | Two hours. |

It therefore appears from the results of the experiments given in Tables XI. and XII. that sodium salicylate has no direct action either in delaying the decomposition of sodium quadriurate or in effecting a solvent action on deposits of sodium biurate. The supposed solvent effect of sodium salicylate for gouty deposits does not therefore exist. What I believe to be the correct explanation of the increased elimination of uric acid in the urine during the administration of sodium salicylate is that salicylic acid unites readily with glycocine and so conveys an increased amount of that body to the kidneys, where by its combination with urea an increased amount of uric acid is necessarily formed. This increased formation of uric acid is directly detrimental to gouty subjects and on that account I consider that salicylates are contra-indicated in gout.

### CONCLUSIONS.

1. The ordinary alkalies, the lithium salts, piperazine, and lysidine, do not exercise any special solvent effect on sodium biurate and their administration to gouty subjects with the object of removing uratic deposits in the joints and tissues appears to be useless.

2. Sodium salicylate does not exercise any special solvent effect on sodium biurate. Its administration with the object of removing uratic deposits in the joints and tissues appears to be useless, and, moreover, it is apparently contra-indicated in gout on account of its leading to an increased formation of uric acid in the kidneys.

Weymouth-street, W.

Brit. Med. Jour., April 23rd, 1898.
[2] THE LANCET, April 17th, 1897.
[6] Guy's Hospital Reports, 1895.

# OBSTRUCTIVE LARYNGEAL AFFECTIONS AND THEIR INFLUENCE UPON CHLOROFORM ANÆSTHESIA.

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THE fears which are so generally entertained as to the danger of giving an anæsthetic to patients suffering from any form of obstructive laryngeal affection lead me to put forward a few observations founded upon several severe cases of this nature which I have lately been called upon to anæsthetise. Not only do the majority of such patients pass through the anæsthesia remarkably well, but, as I shall hope to show, there is reason to believe that the element of asphyxia produced by a partial mechanical obstruction of some weeks' duration in the patient's upper air-passage is responsible for a maintenance of blood-pressure and increased respiratory activity which, so far from causing alarm, may, with due recognition of its limits, be positively of value to the anæsthetist during the narcosis. In ordinary chloroform anæsthesia a very shallow type of respiration is often witnessed which cannot be disregarded by the administrator as a warning of impaired central activity; it requires the most diligent watching, for, being inaudible and hardly palpable, irregularity may without further notice be succeeded by complete cessation. Further, also, under the influence of shallow breathing the pulse is small and slow and the general circulation, as evidenced by pallor of the countenance, shows marked signs of depression. When the breathing is inaudible Dr. Hewitt[1] has found that "the administrator may usually cause a softly snoring sound by pressing the lower jaw backward." I have frequently proved this manœuvre to be an extremely valuable one in producing an artificial stertor, which acts as a good guide, and having marked the *increased depth of respiration* which ensues in nearly every instance when it is resorted to am also convinced that though the increase is compensatory in character it has two important practical results, because (1) it prevents the stagnation of chloroform vapour of increasing strength in the lungs, and (2) adds a considerable impetus to the venous circulation by augmenting the suction action of the thorax. That this latter action is a powerful factor in emptying the large veins I have witnessed in operations exposing the internal jugular vein at the root of the neck, when it can be seen that this vessel partly flattens at each cardiac diastole in expiration, but collapses completely during deep inspiration. Now during partial respiratory obstruction, until compensatory thoracic movements have been established, there is a deficiency of oxygen in the circulation which centrally stimulates the respiratory muscles to further efforts; the same condition also causes a general vaso-motor constriction with consequent rise in blood-pressure and it is therefore to the proximity of incomplete respiratory compensation that I attribute the absence of those symptoms of depression which might be expected in patients with chronic laryngeal obstruction under chloroform.

The administration of chloroform to patients with a partial laryngeal obstruction is clinically a somewhat comparable procedure to the exhibition of nitrous oxide gas with small percentages of oxygen in surgical operations. The valuable experience gained in the gradual onset of symptoms due to reduction of the oxyhæmoglobin in the blood in these latter cases (easily rectified by increasing the supply of oxygen to be inhaled) has shown definitely that not only in theory is it possible to take advantage of these two factors in the respiratory and vaso-motor compensatory mechanism, but in actual practice the administrator can feel and perceive at every breath where the limits of this slight oxygen deprivation lie and can detect by the depth of air-intake and tendency of facial colour the phenomena which will follow during several ensuing minutes. It cannot with certainty be stated that the elimination of carbonic acid gas is retarded in cases with mechanical obstruction in the air passage, but, as it is probable, I would here suggest a reference to the remarkable result obtained by Dr. Augustus Waller during his experiments as to the direct action of anæsthetics upon isolated nerve, which showed that when $CO_2$ was mixed with chloroform vapour in the gas-chamber the recovery of electro-mobility in nerve-tissue was more pronounced than after chloroform alone.[2] This bears very directly upon the cases I shall relate and should be carefully investigated in future work. At this point the foregoing remarks should be clearly defined as a dangerous doctrine for any but those who are in constant association with the administration of anæsthetics. The actual fatal result of a more or less *sudden* obstruction to respiration during chloroform narcosis has been so frequently reported and the warning is so thoroughly appreciated by all experienced administrators that this paper cannot, I think, be misunderstood in merely offering an explanation of certain satisfactory symptoms in otherwise desperate cases.

CASE 1. *Double abductor paralysis of the vocal cords.*—A man, aged fifty-seven years, of powerful build, height 5 ft. 11 in., with bulky abdomen, had abductor paralysis of his vocal cords for twenty-six years and suffered with laryngeal stridor and dyspnœa on any slight exertion. His arterial system was not markedly degenerate and his pulse was 96 per minute. His chest expansion was very feeble owing to paralysis of the intercostal muscles in the upper six spaces, but the diaphragm and abdominal muscles were working vigorously. Removal of the malignant glands in the neck and primary growth at the right base of the tongue were decided upon. On April 9th, 1897, chloroform was given on a Skinner's mask. When the stage of surgical narcosis was reached loud inspiratory stridor supervened with extreme abdominal efforts; complete obstruction to air-entry seemed imminent, but by head extension and raising of the chin respiration settled into a very deep and regular rhythm. The lips and ears were a trifle dusky, but the pulse remained full and strong for over an hour and a quarter, the rate being on the average 114 per minute. After this tracheotomy was performed and the pharynx was plugged to prevent inhalation of blood during removal of the tongue; by means of Junker's inhaler chloroform was continued through the tracheal tube; the pulse, however, fell to 72 and became less regular in force and rhythm while the face grew paler and the respiration shallow. Half the tongue was removed and the patient did well subsequently; but it was clear to me that when the partial laryngeal obstruction had been eliminated by tracheotomy the circulation began to fail directly as the respiration became less vigorous.

CASE 2. *Multiple papillomata in the larynx.*—The patient was a boy, aged eight years. He was thin, of dark complexion and nervous temperament, with severe dyspnœa and retraction of the lower intercostal spaces due to obstruction to inspiration by the laryngeal growths. He was chloroformed for the removal of the latter *per vias naturales* without laryngotomy. Before commencing his lips were slightly cyanosed and his pulse was small and rapid. The breathing grew deeper with stridulent inspiration as the narcosis proceeded, the pulse became stronger and fuller under its influence, while the colour remained the same as before. Seated astride the couch I then raised him against my own chest into the sitting position for the use of the laryngoscope while I continued the chloroform administration through Hewitt's tubular mouth-gag from a Junker's inhaler. The respiratory mechanism maintained its deep and regular efforts whilst the forceps were introduced several times into the larynx and portions of growth were removed. Though I have anæsthetised this patient on nine occasions in the above manner at intervals of a week or more his pulse has not flagged under the anæsthetic nor has the breathing shown irregularity from central causes; and this is the more remarkable in the vertical posture, which is apt to favour syncope in cases without respiratory obstruction. In this instance increasing dyspnœa had been present for three months before the first operation.

CASE 3. *Epithelioma of the larynx.*—A woman, aged sixty-five years, fairly well nourished, suffering from a malignant growth at the posterior margin of the upper aperture of the larynx, had several attacks of acute dyspnœa, the last an hour before operation. Chloroform was administered, breathing grew deep and audible (as would be more usual under ether), with marked improvement in the pulse and colour in the

[1] Anæsthetics and their Administration, p. 229.

[2] Dr. A. Waller: Brit. Med. Jour., Nov. 20th, 1897, p. 1473.

third stage of anæsthesia. After a quarter of an hour the trachea was reached and opened, but directly air entered and the obstruction was entirely relieved breathing became shallow and almost ceased, the pulse, which had been full and strong before, became small and slow, and pallor of the face appeared, which only gave place to returning colour and respiration after three or four strong compressions of the chest walls. This remarkable sequence of circulatory phenomena was due, in my opinion, to the sudden loss of stimulation to the respiratory mechanism which had been working vigorously under the influence of partly venous blood and thereby strongly emptying the right heart by ample thoracic movement.

CASE 4. *Epithelioma of the larynx.*—The patient was a man, aged sixty years, thin, wiry, and alcoholic, his voice was almost gone, and he had laryngeal stridor and dyspnœa on exertion. There was deep, diaphragmatic respiration under chloroform; his colour was somewhat dusky, but his pulse was strong and regular at 96. Tracheotomy was performed. No pallor or respiratory cessation occurred here, but the breathing becoming quiet and shallow on insertion of the tube the pulse fell in force and frequency at the same time.

CASE 5. *Tuberculous disease of the right thyroid cartilage.*—The patient was a boy, aged eighteen years. He was very thin and anæmic, with a hard swelling over the right side of the larynx. He was suffering from severe dyspnœa painful to witness. When requested to fill his chest the upper part expanded, but breathing usually was mainly diaphragmatic. He had hoarseness for two years previously and increasing respiratory obstruction for two months, culminating in attacks of acute asphyxia during the three previous nights. Sleep was now impossible, but the patient could lie down flat. His pulse was 84, small and weak, though regular. Chloroform was taken on Skinner's mask with regular hoarse inspirations which passed into a deep rhythm, though air entry was severely obstructed. Operation was begun. The pulse was good. When, however, the head was extended backwards the brawny swelling in the throat almost entirely occluded the passage of air. The face and ears were deeply cyanosed, secondary pallor commencing. The pulse was still regular. The head was flexed, the mouth was opened, and the tongue was drawn forward; the tissues over the swelling were divided and breathing was much freer. Forty minutes from beginning high tracheotomy was performed. After insertion of the tube some obstruction arose from ropy mucous, but allowing the patient to come round a little this, with a little blood, was coughed up, and at the end of one and a half hour's operation he finished well, was warm, of good colour, and with a pulse at 84.

To illustrate the very grave and alarming symptoms which arise under chloroform from *sudden* obstruction to breathing in a previously unobstructed patient the following case may prove of value.

CASE 6. *Accidental division of the right recurrent laryngeal nerve.*—The patient was a male, aged thirty-five years, thick-set and well nourished, suffering from hygroma of the thyroid gland on the right side. Breathing was normal. A.C.E. mixture was administered on Rendle's mask throughout; there was typical anæsthesia during the first half-hour of operation, when the right recurrent laryngeal nerve was accidentally cut by the operator; inspiratory stridor set in and gradually became more marked. There was, however, no real dyspnœa till after operation, when the obstruction from paralysis of the right vocal cord became very severe and despite head extension and drawing forward of the tongue extreme cyanosis and irregularity of the pulse supervened with very deep inspiratory efforts. Secondary pallor accompanied this acute asphyxia and the surgeon was compelled to intubate the larynx with an O'Dwyer's tube to relieve the symptoms. When the breathing became quieter the patient was removed to bed and after complete recovery from the anæsthetic the tube was coughed out and he subsequently did well.

In certain of the foregoing cases, though tracheotomy was performed, it was not undertaken for the purpose of alleviating asphyxia during anæsthesia, but had been designed beforehand as part of the remedial treatment for the disease; in this last case, however, the very grave symptom of cardiac irregularity supervened rapidly upon respiratory obstruction, and it was this secondary circulatory failure which rendered laryngeal intubation or tracheotomy necessary to save the patient's life.

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# CLINICAL REMARKS ON SOME ADVANCED FORMS OF URETHRAL STRICTURE TREATED BY A COMBINED URETHROTOMY AND PERINEAL SECTION.

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IN some clinical remarks I recently offered[1] on the commoner forms of urethral stricture I reserved for separate consideration certain instances where the methods of treatment then referred to were unlikely to prove of much benefit for the reasons that either the obstructions were too "burn-scar"-like and contractile to dilate or too tough or extensive to divide from within the urethra. In addition to such characteristics these strictures are not unfrequently complicated with fistulæ or tortuous routes in the perineum and scrotum through which both urine and pus escape. Hence the discomfort of the patient is often greatly added to. Cases answering to this description are generally regarded as being best treated by some form of perineal section or, as it is sometimes called, external urethrotomy and it is to this point I desire now to confine myself. As a contribution to this subject I published a series of cases[2] where the usual operation of perineal section as undertaken for stricture in the deep urethra had been greatly simplified and its safety and efficiency increased by combining with it internal urethrotomy. Strictures of the class now under notice are but rarely impassable to some form of instrument and as by reason of the urinary fistulæ which so often complicate them they are seldom urgent in their nature time is allowed not only for effecting an entrance into the bladder by the natural way, but also for ascertaining what may be the outcome of some kind of dilatation. Assuming that the former is accomplished, though dilatation proves futile, the combined operation probably offers the best solution of the difficulty. In describing it, together with such modifications as I have adopted since the publication of my first paper on this subject, I will take in illustration two typical instances in which it was employed.

CASE 1.—A man, aged fifty-one years, whom I saw and operated upon in 1890 had been the subject of a stricture with a strong tendency to contract for some years and had undergone no less than six operations for it, including a divulsion by Holt's method and five internal urethrotomies at various intervals and places. For some months before I saw him the stricture had been contracting and closing in spite of the patient's well-directed efforts with suitable bougies to keep it open. Straining to urinate was constant and prevented continuous sleep, and there was some cystitis with probably pyelitis. It was clear that a free relief must be afforded as structural kidney complications appeared imminent. I performed an internal urethrotomy with Teevan's modification of Maisonneuve's instrument, as I thought that the latter might not stand the strain put upon it by the cartilaginous character of the tissues which had to be divided. This being done I passed a full-sized grooved staff (No. 12 English) into the bladder. As the latter was evidently gripped in the deep urethra I had the patient placed in the lithotomy position and I divided in the median line from without inwards such contracted tissues as remained. I thus opened the urethra and found by passing my finger first into the bladder and then hooking it forwards along the urethra in the direction of the penile orifice that the walls of the canal had now been rendered free and unresisting. A full-sized gum-elastic drainage-tube (such as I have elsewhere described and figured[3] in connexion with the larger subject of bladder drainage) was passed into the bladder through the wound and retained. The parts were well washed out with a solution of perchloride of mercury (1 in 6000). The drainage-tube was finally withdrawn on the sixth day and the wound soon closed. Eight years have now elapsed since this operation was practised.

[1] THE LANCET, April 23rd, 1898.
[2] Brit. Med. Jour., July 18th, 1885.
[3] Surgical Disorders of the Urinary Organs, 4th edition.

The patient remains in good health and suffers no further inconvenience from his urinary organs than having occasionally to pass a full-sized bougie for himself. I frequently meet him.

CASE 2.—This patient, aged forty-five years, had a tough contractile stricture which had resisted dilatation and was complicated with several urinary fistulæ of two years' standing. I operated upon him in 1892. He was treated in the same way as the preceding patient and in addition the various fistulæ were opened up and scraped. The result was equally satisfactory and is so far permanent.

Perineal section carried out on these lines has been found to present many advantages. In the first place it is easier to effect a division of the hard and condensed tissues of the perineum, such as generally surround strictures of this kind, upon a fairly large staff than upon a small one or even upon the shouldered staff which Syme used for marking the commencement of the contracted portion of the canal. The freedom or otherwise with which the large-sized instruments move in the canal is sufficient to determine the necessity for proceeding at once with the external section, as well as the precise locality and degree of the contraction which remains. It may seem at first sight in combining these two operations that the magnitude of an ordinary perineal section is increased. This, however, is not the case, as the division of more or less of the obstruction from within the canal has not infrequently proved sufficient to completely clear the urethra, whilst it invariably tends to limit considerably the extent of any external section which may still be required. Further, it must be remembered that there is no kind of wound involving the deep urethra which heals so kindly or is so free from those constitutional symptoms which occasionally follow operations on this canal than that where a temporary drain is established for the urine. Again, this point is importantly supported by the results following rupture of the deep urethra from external violence. Cases of this kind where a perineal section is performed and a temporary drain established compare most favourably, both immediately and remotely, with those where the treatment consists in the retention of a catheter, when this can be passed, the points of distinction being in the former class of cases the absence of septic symptoms of a serious nature and the more favourable character of the scar which results. There is no worse kind of stricture to manage than that following an extensive rupture of the deep urethra and its treatment by what may be described as the closed method. It is on grounds such as these that I believe the combined operation proves of much benefit in the treatment of some of the most serious and complicated forms of urethral stricture.

Before concluding these remarks I will briefly refer to a class of strictures which I have only incidentally noticed. This is the structurally impassable stricture—impassable alike to instruments and urine and associated invariably with an extraneous route for the urine, probably through the perineum. The latter condition is the result either of nature's effort to provide escape for the urine by abscess and fistula or of the surgeon's, more promptly and directly, by incision. In endeavouring to restore a urethra of this kind and to close a well-worn fistula the surgeon will fully recognise the mechanical and physiological difficulties before him not only in reproducing a portion of the canal which to all intents and purposes is obliterated, but in subsequently fitting it to take up the functions connected with the process of natural, or even aided, micturition. It requires no great amount of surgical ingenuity to establish the continuity of the urethra so far as instrumentation is concerned, but to secure a reasonable degree of control or influence over the restored portion of the canal is by no means certain. On the other hand, experience and trial have not infrequently shown that a good urinary fistula has proved an excellent substitute for a bad urethra.

Lower Berkeley-street, W.

TORQUAY NATURAL HISTORY SOCIETY.—The report presented at the annual meeting of this society showed that there were 198 members and associates. A special vote of thanks was awarded to Mr. C. H. Wade, M.A. Oxon., M.R.C.S. Eng., L.R.C.P. Lond., for the large amount of time and trouble he had devoted to the society.

## A CASE OF RECURRENT CANCER OF THE BREAST TREATED BY OÖPHORECTOMY AND THYROID EXTRACT.

BY G. ERNEST HERMAN, M.B., F.R.C.P. LOND., F.R.C.S. ENG.,
SENIOR OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL, ETC.

A PATIENT, aged forty years, consulted me as to a lump in the left breast. The patient's weight was then 10 st. 3 lb. She had had two children, the last thirteen years ago. Menstruation was regular. The characters of the lump led to the opinion that it was cancer, and the patient was advised to see a surgeon. The result of this advice was that in October, 1890, Mr. Treves removed the left breast. The whole mamma was removed, but as no glands were discovered in the axilla the axillary space was not evacuated. The breast after removal was cut into, and the tumour was found to present all the characters of cancer so well marked that it was not thought necessary to complete the diagnosis by microscopical examination. The patient recovered well from the operation. In July, 1893, her weight was 11 st. 2 lb. In November, 1895, it was 11 st. 1 lb. In the beginning of 1896 she began to lose flesh. In May, 1896, she weighed 9 st. 12 lb., and in July 8 st. 13 lb. After this she gained a little, reaching 9 st. 6 lb. in October. Towards the end of December she noticed a lump in the armpit, which induced her to again come for examination. As a result of this on Jan. 4th, 1897, Mr. Treves cut down first upon a lump just above the clavicle and then upon the lump in the armpit. The lump above the clavicle was found to be an indurated fixed gland in such close relation to the subclavian vein that its removal was unadvisable. When the axilla was exposed, a mass of new growth was found quite surrounding the axillary vessels. There were also nodules in the pectoralis major. The new growth was so extensive that the complete removal of the axillary growth could have been effected only by amputation of the upper extremity, and if this had been done the supra-clavicular nodule would have remained. The incisions were therefore closed without any attempt to remove the recurrent growths. The wounds healed well.

As there was no prospect of cure by any other treatment, the case in which Dr. Beatson observed disappearance of recurrent cancer of the breast after oöphorectomy and the administration of thyroid extract was put before the patient and her husband, and after consideration they decided to accept this chance of cure. Menstruation had been irregular for about three years, but had not ceased. She had last menstruated on Jan. 3rd, 1897. On March 2nd, 1897, I removed both ovaries. They presented small cysts but were otherwise healthy. As soon as the vomiting caused by the anæsthetic had passed off the patient began to take thyroid extract; at first the glycerine extract made by Allen and Hanburys, then either tabellæ from Allen and Hanburys or tabloids from Burroughs, Wellcome and Co. She has taken this ever since in as full doses as she could, varying from 10 gr. to 15 gr. daily. She has occasionally had to diminish the dose on account of dyspeptic symptoms—vomiting and epigastric pain—thought to be produced by it. On Sept. 27th, 1897, she came up for examination. Mr. Treves and I examined the parts. The supra-clavicular nodule was no longer to be felt. The axillary artery could be felt pulsating, apparently quite free from growth around it. The patient's weight, which on March 27th, 1897, was 8 st. 4½ lb., is now (May, 1898) 8 st. 10½ lb. On May 5th, 1898, the patient was seen by Dr. G. C. Tayler of Trowbridge, who reported as follows: "I examined the operation scars this day and find that they are pale—almost the colour of the neighbouring skin—soft, no adhesion to the subjacent parts, and no deposits of any kind in the surrounding tissues."

In this case, as in one published by Dr. Beatson, recurrent cancerous growths atrophied after removal of the ovaries and the administration of thyroid extract. The length of time since the operation during which the patient has remained well—fourteen months—is enough to justify the assertion that the course of the disease has been modified by the treatment.

Since the publication of Dr. Beatson's case Mr. Stanley Boyd and Mr. Watson Cheyne have reported cases of oöphorectomy for mammary cancer, but it is not stated in their reports that thyroid extract was given. Thyroid extract has very powerful effects upon the body, and I think Dr. Beatson's practice cannot be said to have been followed if thyroid extract has not been given. Cases treated by oöphorectomy without thyroid extract do not justify a conclusion as to the uselessness of oöphorectomy *plus* thyroid extract. My reason for combining oöphorectomy with thyroid extract was simply that Dr. Beatson's successful case was treated in that way. The explanation of the benefit which seems to me the probable one is that based on the protozoon theory of cancer—that the withdrawal of the ovarian secretion, coupled with the presence of an excess of the thyroid secretion, makes the tissues of some persons a less fit food for the cancer protozoon.

I have since treated some cases of uterine and vaginal cancer by oöphorectomy and thyroid extract, but the results are not yet complete enough for publication.

Harley-street, W.

## THE LOSS OF SEXUAL POWER IN TABES DORSALIS.

BY R. CUNYNGHAM BROWN, M.D. DURH.,

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LOSS of sexual power is one of the most constant disturbances of function encountered in tabes, being present in at least 70 per cent. of cases of over two years' duration. Leimbach[1] found it present in 58·25 per cent. of all cases of whatever duration, and in 15·54 per cent. it was one of the earliest symptoms of the disease. Before investigating, however, this disturbance of function it may be well to glance at the normal mechanism. Erection is a complex process largely reflex in nature, having for its afferent limb fibres passing from the glans penis and penis to the upper sacral and lower lumbar cord and for its efferent limb fibres passing from the cord to branches supplying the pudic and dorsal arteries of the penis and the transversus perinæi and bulbo-cavernosus muscles. Erection therefore depends partly on the presence of afferent stimuli ascending from the penis, but may also be initiated or inhibited by cerebral impulses. Ejaculation is an act more dependent than erection on the presence of afferent stimuli. The afferent impulses in this case also come mainly from the glans penis. The efferent impulses are spread over a larger area than in the case of erection, effecting peristaltic contraction of the muscles of the epididymis, vas deferens, and prostate, and later rhythmic contractions of the levator ani, sphincter ani, constrictor urethræ, &c.

Tabes being mainly, if not entirely, a disease of the mechanism subserving the production and transmission of afferent impulses, it is to be expected that the loss of sexual power in tabes should be found to be due to the diminution or loss of those afferent impulses concerned in the act. The larger contention, that tabes is entirely a disease of the mechanism subserving the production and transmission of afferent stimuli, is outside the range of this paper, but in this connexion Dr. Warrington's paper[2] on the effect of section of the posterior roots on the cells of the anterior horn and that of Dr. Schaffer[3] on the changes in the cells of the anterior horn in tabes are of great value. Clinical experience, however, shows clearly the part which loss of afferent stimuli plays in the production of loss of sexual power. Of 12 cases of tabes taken at random 2 were women and not examined from this point of view. Of the remaining 10, 8 had suffered from tabes for a period of two years or more, and in these loss of sexual power was present in 6. None of them were old men, only one being over forty years of age. Now in every one of these 6 cases in which there was loss of sexual power there was absolute analgesia of the glans and comparative or absolute analgesia of the rest of the penis. 4 of these had in addition comparative loss of tactile sensibility in the penis and glans, but in the other 2 tactile sensibility was normal. Further, in the 4 cases in which there was no loss of sexual power there was no affection of sensibility of the penis or glans. These figures are very significant and indicate very clearly that the alteration in sexual power is closely related to the diminution or loss of afferent impulses from the skin and possibly deeper structures of the glans and penis.

The loss of sexual power is gradual in onset and exists in proportion to the amount of analgesia of the glans. In the majority of cases examined, also, the condition might be described as belonging to one of two stages: (1) that of loss or diminution of voluntary sexual power with persistence of involuntary erection and emission; and (2) loss of both voluntary sexual power and involuntary emission. In the first stage analgesia of the glans alone or accompanied by diminished tactile sensibility is present, but the testicles are not atrophied and testicular sensation is present. In the second stage there are in addition atrophy of the testicles and loss of testicular sensation. The first stage passes gradually into the second, but a considerable time may elapse before complete loss of sexual power is established. In one case, three years after the loss of voluntary power, erection and emissions of purely cerebral origin occurred with regular frequency. This persistence of emission of cerebral origin shows that the efferent paths may remain capable of function long after the reflex process is impossible and indicates the afferent nature of the lesion. As to the site of the morbid processes at work it is impossible to speak with certainty at this stage. Gumpertz,[4] however, has demonstrated changes very early in tabes in the peripheral nerve structures, and it is, at any rate, possible that this, as well as other symptoms of tabes, is due to disease commencing not in the posterior spinal ganglia or in the posterior root at its junction with the cord, but in the extremely peripheral nerve structures subserving the production and transmission of afferent impulses.

Chancery-lane, W.C.

[1] Leimbach: Deutsche Zeitschrift für Nervenheilkunde, 1895.
[2] Warrington: A paper read before the Liverpool Medical Institution on April 21st, 1898. THE LANCET, April 30th, 1898.
[3] Schaffer: Monatsschrift für Psychiatrie und Neurologie, Berlin, 1898, Band iii., S. 64–98.
[4] Gumpertz: Berliner Medicinische Wochenschrift, 1898, Band xxxv., p. 62.

## VITALITY:
## AN APPEAL, AN APOLOGY, AND A CHALLENGE ADDRESSED TO BROTHER PRACTITIONERS.

BY

LIONEL S. BEALE.

(*Continued from page 1050.*)

AMONG the untenable propositions enumerated not the least extravagant is that in which the growth of living things is classed with the process of accretion or aggregation in the non-living world. Only watch the gradual living growth as seen by all in the little child. Can the faintest analogy be pointed out between this vital growth and any inorganic process whatever? Think of the increase of the several complex tissues, for example, in the arm or in a finger. As the member grows in length, do not the nerve plexuses distributed to the peripheral parts become separated by a gradually increasing distance from the nerve centres, and does not this change occur not only without interruption but at the same time that steady improvement in nerve action is taking place? Do not new tissue formations, new growth, and new nerve action all actively proceed and simultaneously? How, then, can such phenomena be caused, directed, and regulated by physics or swayed by chemistry?

If we study but a small particle of the growing tissues in properly prepared microscopical specimens we shall find millions of minute bioplasts among the tissues formed during growth—the vital phenomena and tissue formation and action proceeding with great regularity during the whole period; not only so, but evidence of anticipation of a future condition, of preparation for further growth and arrangement of tissue. Thus the complete development and action of the several tissues and their continued and healthy action are provided for during youth, adolescence, maturity, old age, decrepitude, up to death—one stage so gradually passing

into the next that healthy individuals are scarcely aware of the occurrence of any change at all.

All growth through living nature is effected by living matter (bioplasm) alone. Who can show that any tissue of any living thing in this world is formed by *aggregation, precipitation, deposition, a sort of crystallisation*, or by the "differentiation" of a previously homogeneous exudation-plasma?

Minute anatomical and chemical investigation and biological observation enable us to form in some degree a mental picture of the changes affecting the bioplasts of the tissues and of their action during life, and to form some idea of the phenomena which actually occur and which succeed one another from the time when the speck of living matter began to increase and multiply exceedingly, and some of the resulting bioplasts first began to produce perhaps only soft temporary tissue, to the time when the formation of lasting tissue and the construction of the several organs was complete, and their action became necessary to the well-being of the organism now developed and attaining its normal and permanent characters. The longing on our part to find out exactly how the several parts and organs of a complex organism are formed, and precisely how they act and what work they do is certain to lead to real advance of hygiene, psychical knowledge, and medicine.

Much, indeed, has been and is being gained in this direction, but our knowledge is still far from being accurate, definite, and complete in many important points which will certainly ere long be determined. Nevertheless, I appeal to all to consider whether the results of minute anatomical research and our knowledge of the minute structure and mode of action of various tissues and organs are not at this time really in advance of some of the doctrines still held and taught far and wide upon these matters—nay, upon the question of the nature of the endowments and the mode of increase of the very simplest living particles in nature; and I fear it will yet be some time before a clear and accurate account will be given and generally accepted of what goes on at the moment when a molecule of non-living matter receives its vital endowments. Indeed, I doubt whether any student of any department of living nature can acquire from our best works on physiology a definite notion of the ordinary processes which are necessary to his existence from moment to moment and to that of every living particle in the life world.

The importance of the thorough investigation of the physical and chemical phenomena of the living body is unquestioned, but is it not a fact that during the last forty years or more there has been a persistent and most determined effort on the part of some highly distinguished philosophers as well as physiologists, physicists, and chemists, and even physicians, to persuade mankind that all vital actions are in their nature but physical and chemical, while no one has succeeded in proving his case or even in adducing evidence that his contention is likely to be established in the future? The chemico-physical investigation of living nature has rightly been regarded as a highly important department of scientific work and thought, but is it quite suited for the training of the medical student, or, indeed, for students generally? Nor is it the fact that only undue prominence has been given to the importance of physical and chemical phenomena, for has not the influence of vitality in determining the course and character of the physical and chemical changes in matter during the living state been by some recent as well as by ancient authorities wholly ignored and denied? Unfortunately, too, physico-chemical doctrines of life have been accepted and made popular, and in consequence many thoughtful persons have been persuaded that these views, if not at this time completely established, would certainly be proved to be true some time hence, just as the idea of the evolution of life somehow from the non-living has gained credence, although there is not a fact convincing to the reason to be adduced in its support. Indeed, no one who advocates the physical doctrine of life has even attempted to explain to us the exact difference between a particle of matter in the living state and the same particle when death has occurred. Does not the vast, far-reaching influence of special vital power which is associated with a modicum of matter preclude the possibility of vital actions being only physical and chemical? Has any true analogy been pointed out between this far-reaching vital power over matter which perhaps is not to come under its influence for many years, and any physical or chemical action whatever? But some might say, "chemical action goes on after life has ceased in certain cases, as shown by considerable rise in temperature," to which the reply is that "in the situations where heat is being evolved in the dead body for some time after 'death' has taken place, particles of living matter or bioplasm still exist and continue to live until the temperature has ceased to rise.

Is it not indeed very doubtful whether the wonderful work of highly skilled scientific workers in physiological chemistry and physics in the splendid laboratories rightly provided in many institutions in every part of England will result in establishing the longed-for conclusions with reference to the nature and cause of vital processes, though quite recently another step towards that desired consummation of the universal operation of physical law seems to have been made by the discovery of "living crystals," of which I saw, or thought I saw—or did I dream I saw—the announcement? Almost daily new substances are discovered and bodies of wonderful properties extracted from a compost consisting of many textures, as well as the special secreting cells, vessels, &c., of an organ removed from a dead animal and beaten up into a soft pulp and then subjected to various chemical operations. But what right have we to assume that any of the substances at last obtained in a pure, perhaps in a crystalline, form were actually present when the organism was alive and the several bioplasts were performing their active vital functions? Is it reasonable to conclude that any theory based upon the results of such post-mortem operations ought to be accepted by us as even a probable solution of the facts, or that anything is likely to be gained by such methods of investigation concerning the nature of life? The conditions present in the laboratory are absolutely different from those in and around every particle of matter which is alive.

Is it not wonderful, therefore, that a few authorities still advocate a physiology consisting of chemical and physical phenomena, a physiology which would seem to be but a department of physics and chemistry—a physiology without vitality? No explanation whatever has been offered by the advocates of this abiotic physiology of the manner in which according to their view the chemical and physical actions are determined, governed, or regulated, or of the means by which the never-ceasing analytical and synthetical operations are carried on, or why the atoms—if atoms there be—change their places and relations to one another, or what governs their constant movements, or how their behaviour during life differs from their behaviour when life has ceased. But men are getting dissatisfied with a physiology and philosophy which postulates a living nature without vitality. Some of us rebel at being called mechanisms built by the sun, or laboratories of a kind, or machines for the conversion of energy. Nor can we any longer find comfort in the comprehensive words "protoplasm," "metabolism," "differentiation." We want to learn in what particulars Life differs from Non-life, or to be compelled by fact and reason to admit that there is but a difference of degree—the one state passing gradually into the other state.

Every attempt to account for the formation, construction, and action of tissues and organs of anything living without the recognition of vital agency has signally failed. Deposition from fluid, the gradual concentration of a solution, conversion, condensation, and processes allied to crystallization have been proposed and found wanting. Much conjuring is still done by that learned word "differentiation," which seems to have satisfied many and silenced or soothed appeals for information. Can anyone point to one instance in all living nature in which tissue or structure has appeared in the absence of living matter or bioplasm? Each little morsel of tissue is formed by a particle or a portion of a particle of living matter passing into the *formed state*, while the rest of the particle may continue to grow and furnish more bioplasm for subsequent conversion into formed material or tissue. The process of formation really depends upon changes determined by and prepared for during the life of the bioplasm, and must, as it seems to me, be referred to vital power, which ceases at the *moment of formation*. So slowly, so gradually, does tissue formation proceed that it is impossible at present to see and follow the change from *living* to *formed* in any one spot of a specimen placed for examination under high magnifying powers; but by careful comparison of different parts of the same specimen in which tissue formation is going on a correct idea of the operation may be formed.

The particular characters and composition of the tissue

must then, as it seems to me, be referred to the vital power of the bioplasm which was concerned in its production. As I have shown long ago, no tissue can add one particle of new tissue to that which is already formed, and I venture to think this fact has been proved by the evidence that was advanced some years ago and illustrated by my drawings. The formation of the various special compounds which characterise different secretions, as bile, saliva, &c., as well as the so-called products of disintegration, are also results of the conversion of matter that *was living* into these substances. *Formation* therefore is absolutely different from all forms of precipitation, deposition, crystallisation and the like, and is one of the wonderful changes due to *Vitality*. All crystals are non-living and nothing that lives is crystalline.

I challenge opponents to advance evidence against the view that *formation*, *nutrition*, *disintegration*, *oxidation* as they occur in the living world, are dependent upon *Vitality*; that structureless living matter, *bioplasm*, is the only substance capable of building up and breaking down, of forming tissue and removing it, of taking up matters resulting from disintegration and of conversion. So far from it being correct to say that these processes are results of physical and chemical change, are they not just as much dependent upon *Vitality* as the chemical operations in the laboratory are dependent upon *the chemist?* So in the production of tissues and chemical compounds characteristic of particular and higher forms of life, between the constituents of the *food* on the one hand and these *formed matters* on the other, several kinds of bioplasm live and multiply, form and die, before the results which have been foreseen as it were from the first are accomplished—all through the complex processes, *living matter* being the sole metabolic substance and *Vitality* the sole metabolic *agent*.

*Biology*, though the most recent, is by no means the least important of the "'ologies." The course of physiology of man which used to be so useful to the student training for the practice of medicine has of late years, under the influence of purely scientific professors devoted to their subject, many of whom have been engaged in original research as well as in teaching medical students the general principles of physiology, grown to such an extent, both in length and in elaborate complexity, that a division of the teaching labours of this department has been rendered necessary, and the course has been divided into physiology proper, histology, and elementary biology. The last has been regarded as a course preparatory to that of pure physiology and has usually been in the hands of a separate scientific teacher who has not yet advanced to special professorial dignity. In this elementary course is taught something of the use of the microscope and the best methods of preparing tissues for examination. The professor of physiology is now relieved of a difficulty resulting from the pupil not having been grounded in general knowledge of living nature before he entered upon the study of physiology proper.

In this biological course every student can gain some insight into the phenomena of life as observed under simple conditions in living organisms including plants. He sees and may contemplate the wonderful vital movements of living matter or bioplasm as exhibited in the amœba, living leucocytes, mucus, and pus corpuscles of man, also in the "cells" of Vallisneria and in the hair-like bodies of the flower of Tradescantia, a plant which will grow in the heart of London and other large cities. The student also gains some information about the general structure of some of the invertebrata and the general anatomy of the lower vertebrata as shown in the respiratory, circulatory, and digestive organs, and perhaps the nervous system of the fish, the frog, the bird, and the mammal. Under the new regulations this course of elementary biology may be taken at one of the several schools, colleges, or institutions now established in many parts of the country for teaching certain branches of elementary science and some technical subjects connected with secondary education for the people. By this arrangement the student of the future will be better prepared than his predecessors for entering upon the study of certain departments of science absolutely necessary for those who are training for our profession, and indeed fit subjects of general education. In these days ought not everyone to be acquainted with the broad facts of life and death by which these very different states of matter are, and have ever been, sharply separated in nature? And is it not true that living matter should have an appropriate name by which it would be for once and for all marked off from matter in any other state—a name indicating its unique position in the material universe and its exceptional endowments—so distinct from all known material characters and properties? In *bioplasm* we have a word which is well defined, and unlike *protoplasm*—that may be living or dead or even cooked and yet be protoplasm. The instant bioplasm dies it ceases to be bioplasm and resumes the state of ordinary non-living matter. I have for many years considered bioplasm to be the most suitable word for the matter which is alive, and for some time it has been inserted in most of our modern dictionaries. It may be well to note that in the New Sydenham Society's "Lexicon of Medicine and the Allied Sciences," by Mr. Henry Power and Dr. Leonard Sedgwick, among the words having the root *βίος* we find the following:—"biological," "biologist," "bioplasm," "bioplast," "biosis," "biotic," "biotomy," "bioscopy," "biolysis," "biogenesis," and "abiogenesis."

Physical and chemical physiology has advanced so much of late years that for its profitable study a good knowledge of chemistry and physics and a course of practical work in the laboratories is necessary. This for the general student of medicine would not be possible even though the medical course were extended to ten years. An advanced knowledge of physical physiology and familiarity with the numerous delicate and complex instruments required in the pursuit of this department would be of little service to the medical student in the future practice of his profession.

The case, however, is very different with regard to biology, for we are dealing with vital actions and deranged vital phenomena during our whole life, and it is certain that a knowledge of the minute anatomy of tissues and of the mode of their production and action must be of great assistance to us when we are trying to form a correct idea of what is actually wrong in the tissues of the person whose sufferings we are endeavouring to relieve and whom we are hoping soon to restore to the normal condition of health.

Of all the progressive changes carried out in medical education of late years I believe the recognition of biology as an essential subject to be one of the most important additions to our curriculum—not only because for the first time our students early in their medical training are enabled to gain some general knowledge of living nature of interest to every intelligent person and absolutely necessary for a knowledge of man's structure, but also because what the student learns in this course may suggest to him certain new lines of investigation which may assist in advancing medical learning and the good management of the sick and injured.

In elementary biology the student learns how to prepare tissues for microscopical examination and the best means of clearly displaying structure and the colourless structureless bioplasts concerned in tissue formation and in promoting the circulation of fluid in the interstices of the tissues by which their healthy state and normal action are preserved.

As time goes on the new biology will become one of the most important subjects of early medical education, and there is every probability of its taking its place as a necessary subject in the general education of everyone, and I have no doubt that elementary biology will soon be taught in all national and board schools. Indeed, already a few school teachers are attending courses of biology in order that they may undertake the teaching of this very important subject.

*(To be continued.)*

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THE LATE MR. C. W. PRICE.—An inquest was held in Cardiff on May 25th upon the body of Mr. Charles Williams Price, M.R.C.S. Eng., L.R.C.P. Edin., L.S.A., formerly of Court House, Caerphilly, who had died from the effects of opium poisoning. The jury returned a verdict that the deceased had died through opium poisoning and that there was no evidence to show in what state of mind he was at the time.

A GRAND festival concert will be held at the Crystal Palace on Saturday, June 25th, in commemoration of the sixtieth anniversary of the Queen's coronation. Madame Adelina Patti will make her first appearance at the Crystal Palace since the Handel Festival of 1880 and will be supported by Miss Clara Butt, Mr. Edward Lloyd, Mr. Santley, and the London contingent, numbering some 3000 voices, of the Handel Festival Choir. A varied programme of first-class music will be provided.

# Clinical Notes:

## MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

### RUPTURE OF THE LIVER; FORMATION OF CYSTIC SWELLING CONTAINING BILE-STAINED FLUID.

BY ARTHUR RUSSELL ALDRIDGE, M.B., C.M. EDIN.,
SURGEON-CAPTAIN, ARMY MEDICAL STAFF.

THE case related in THE LANCET of March 21st, 1898 (p. 719), by Mr. C. Whipple under the above heading, and about which it is remarked that probably no similar one has been recorded, induces me to send the following notes of a case in which the symptoms were very similar, though there was no history of injury except muscular violence.

The case occurred a few years ago, and was under my care during the early stage only, so I am unable to give very complete notes. An officer, aged twenty-four years, who had been in India about a year, enjoying good health during that time, while training a raw and hard-mouthed pony with polo stick and ball suddenly felt pain in the right hypochondrium. After a few hours this became very severe, and on examining him it was found that there was severe pain and tenderness, most marked at a point just below the costal margin, a little to the right of the middle line. A slight puffy swelling could also be detected over the costal cartilages near this spot. The symptoms were attributed to rupture of some fibres of the rectus muscle and the patient was treated accordingly, but after a few days, the pain continuing, a swelling began to appear just below the costal margin. As fluctuation could be felt in this it was aspirated and one and a half pints of slightly blood-stained clear fluid were withdrawn. On examination, besides showing the presence of blood, the fluid gave the reactions for bile acids and pigment, but though carefully searched for no hydatid hooklets or membrane could be found. During this time the patient's temperature remained slightly above normal. From this time the case came under the care of another medical officer and the history was briefly as follows:—After about a week, the fluid having reaccumulated, the cyst was again aspirated and similar fluid removed. On a third tapping a short time later the fluid proved to be slightly purulent. The cavity was now opened by incision, about a pint of pus was removed, and a drainage-tube was inserted, but in spite of daily antiseptic irrigations of the cavity symptoms of septic infection appeared and the patient died from this. No post-mortem examination was made. The exact nature of this case has always remained a matter of uncertainty to me.

Malta.

### GENU RECURVATUM.

BY ARTHUR S. TAYLOR, M.D. CANTAB., F.R.C.S. ENG.

THE condition known as genu recurvatum, described by Mr. Sheild in THE LANCET of May 28th, is sufficiently rare to make it desirable that all cases should be carefully noted, whether the deformity be severe or slight, in order that some rules should be arrived at for treatment. I think that the following case, though of a decidedly milder type, is very instructive.

The patient had had four children previously. The labour in each case had been tedious but straightforward. When she was in about the fourth month of her pregnancy she had a bad fall over a rope and injured her knee. This fact was, of course, made much of later, but the real interest of the accident lay in the question as to how far it may have been responsible for any malposition of the child's legs or for the course of after-events. It is curious how often there is a history of injury in these cases. The confinement was expected some time in February, 1898, and indeed about this time the liquor amnii escaped and feeble labour pains came on. The child, however, was not born until March 17th—i.e., one month later. The labour was difficult owing to the size of the child and forceps had to be used. The head was born in the first vertex position. The condition noticed at birth was the following. The legs appeared to be rather short but otherwise the whole body was well developed. The right leg was hyper-extended on the thigh about 10° beyond the straight and could only be flexed through 45°. There were two transverse furrows in front of the knee-joint. I thought I detected a rudimentary patella, but could not be positive. The left leg was hyper-extended about 30° and could not be flexed at all. The same transverse furrows were present, but there was no trace of a patella. I expected that the child would have to wear some kind of support for the rest of her life and ordered gentle massage and flexion. The condition on June 1st was as follows. Neither leg could be hyper-extended. Both legs could be flexed until the heel touched the buttock. There was a well-marked patella to be felt in the tendon of the right quadriceps extensor and a less well-marked one in the left tendon. The transverse furrows more or less remained.

This case appears to me to be rather one of faulty or arrested development than of malformation. The sequence of events seems to be this. The mother had a fall about one month later than the date at which the patella cartilage first appeared. Possibly the result of this was to extend the legs on the abdomen, the hip-joints being completely flexed. The quadriceps extensor being relaxed the stimulus necessary to the proper development of the sesamoid bone was removed. This condition would be accentuated in my case during the last month owing to the escape of the liquor amnii. The posterior crucial ligaments would also develop somewhat too short and limit flexion. The interesting point is that after birth and under normal conditions development has proceeded on the proper lines. In Mr. Sheild's case there was definite malformation and at the end of eight weeks no improvement had taken place. At the same time great injury is likely to follow forcible manipulations in such young subjects and no good will be done if the quadriceps extensor tendon is bound down to the shaft of the femur. If such a condition could be ascertained I would recommend subcutaneous section of any opposing bands. But in any case it seems worth while to wait a few months. Ossification commences in the patella in the third year and it will be easier to ascertain the exact condition when the child has developed somewhat, and the more simple cases like my own will escape operation.

Surbiton-hill.

### TWO CASES OF THE EXTERNAL EAR COMPLETELY CUT OFF AND SUCCESSFULLY REPLACED.

BY F. A. PURCELL, M.D., M.CH. R.U.I.,
SURGEON TO THE CANCER HOSPITAL.

IN THE LANCET of June 4th Dr. William J. Brown reports an "Extraordinary Case of Horse-bite; the External Ear completely Bitten Off and Successfully Replaced." This paper recalls two cases which occurred some years ago in my own practice in which the external ear was completely cut off and which I successfully grafted on.

The first was that of a groom who came to fisticuffs with his horse in his loose box; he got knocked down and the horse trod on his head and completely cut off the man's external ear. The man secured his ear and came to me without delay.

The second case was that of a lad. While at play he rolled down the stone steps of an area. In his fall his external ear was cleanly cut off. His mother brought him at once to me, bringing the ear with her.

I adopted the same method in replacing the ears in both cases. As I had been successful in the first I hoped to be so in the second, as the result proved. The moment I got the ear I placed it in warm water nearly blood-heat, washed it and cleaned it; then I washed and prepared the patient. I applied the ear and noted all landmarks to make sure of its accurate adaptation. I passed interrupted horsehair sutures all round, without tying them until the last was passed; by this means the needle was able to be inserted through both edges, having noted the corresponding spots by jagged skin or otherwise. When the sutures were tied taut the ear fell into its exact position. I had no trouble with the curled-up edges. The ear was then covered with gauze and wool and bandaged. I ordered the application of a small flannel bag loosely filled with table salt; this to be heated in a saucepan over the

fire until made hot and renewed when cool. This bag was then laid over the ear outside the dressings and bandage. My object was to keep the ear warm and restore the circulation. In both cases the ear became united. I saw the patients many times after; the ears were of good colour, but became numb when they were pinched.

Manchester-square, W.

# A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Proœmium.

## MIDDLESEX HOSPITAL.

### A CASE OF VESICO-UTERINE FISTULA; CLOSURE BY TURNING CERVICAL CANAL INTO BLADDER; SUBSEQUENT OOPHORECTOMY.

(Under the care of Dr. WILLIAM DUNCAN.)

WE cannot but agree with Dr. Duncan that the case he has recorded below is probably unique. As to the mode of formation of the fistula it is not unlikely that the explanation suggested is correct, but it may possibly have followed a coincident tertiary syphilitic ulceration of the vagina and therefore be not necessarily traumatic. The method employed to close the gap was exceedingly ingenious, and its suitability was fully demonstrated by its success. It would be of interest to know whether, in cases such as this where the only outlet from the uterus is through the bladder, the urine makes its way into the cavity of the uterus, and if so, whether the mucous membrane of that organ tolerates the urine.

A single woman, aged thirty-three years, was admitted into Prudhoe Ward, Middlesex Hospital, on Jan. 1st, 1898, complaining of constant discharge of urine from the vagina. There is nothing of note in her family or personal history. She had one child nine years ago. The patient was sent to Dr. Duncan by the house surgeon of a provincial infirmary, who gave the following account of her case: "The patient first came under our notice two years ago suffering from acute iritis; this was very persistent. We believed it to be of a syphilitic nature and eventually did an iridectomy. Ten months ago she was admitted with a large tumour on the right side of the abdomen; it had apparently no connexion with the pelvis and was situated immediately beneath the liver. Abdominal section was performed on July 2nd, 1897, and proved the swelling to be an enormously distended uterus with walls like an ether bag. The incision was closed and the os uteri was dilated with Hegar's dilators; the membranes were then punctured, allowing the escape of a very large quantity of fluid. The patient was sent back to the ward and eighteen hours later a four or five months' fœtus arrived without any artificial aid. It was putrid and stinking. I gave a uterine douche after delivery and then handed the douching on to an experienced nurse to do night and morning. A week after delivery the bed was saturated with urine. On examination the vagina was found to be intact, but on inserting the finger about an inch into the cervical canal a communication with the bladder was felt. About a month later I was deputed to close it. After about two hours' work and having cut away the whole of the anterior lip of the cervix I managed to close it with a dozen sutures. It held for a week and then broke down."

On admission to Middlesex Hospital the patient was somewhat anæmic-looking. The heart and lungs were normal. There was a central cicatrix extending from the umbilicus to the pubes. The vulva and vaginal outlet were marked by syphilitic scars. *Per vaginam* urine was dribbling away. High up in the roof of the vagina there could be felt an opening into the bladder larger than a shilling. The margins felt thickened and indurated. On Jan. 23rd, under anæsthesia a careful examination was made with the patient in the lithotomy position. The anterior lip of the cervix was completely absent, the posterior lip was 2 in. long, and to its upper third the margins of the fistulous opening were firmly adherent. The opening into the cervical canal could not be seen, even when the posterior lip was pulled down by means of a volsellum forceps. On passing the finger into the bladder a phosphatic calculus of the size of a filbert was detected and removed. It was evident that it would be impossible to dissect off the bladder from the cervix in order to free completely the margins of the fistulous opening and bring them together, so Dr. Duncan decided that the only course lay in an attempt to fix the vaginal portion of the posterior lip of the cervix into the opening and thus close the fistula, but at the expense of diverting the uterine canal into the bladder.

On Feb. 3rd, gas and ether having been administered and the patient placed in the lithotomy position, the vaginal mucous membrane was removed from the margins of the fistula, leaving a raw surface about ¼ in. wide; next the anterior surface of the posterior cervical lip was completely converted into a raw surface. With a very curved Hagedorn needle the raw surfaces on the vaginal wall were brought into intimate contact with the raw surface on the cervix by means of seven silkworm-gut sutures fastened with coils and shot. A winged indiarubber catheter was placed in the bladder so that the urine could run off into a bottle as quickly as it entered the bladder. The subsequent progress of the case was uneventful; the stitches were removed a fortnight later. There was no trace of leakage into the vagina. On the 16th as the urine was slightly alkaline it was decided that the bladder should be gently washed out twice daily with a warm boric acid solution. On the 23rd the urine was normal and the irrigation of the bladder was discontinued. On the 25th blood appeared in the urine, but there were no clots or shreds. The urine was of specific gravity 1017 and was acid. The patient felt some little pain in the abdomen. On March 3rd it was noted that blood continued to pass with the urine for four days and then ceased. Dr. Duncan advised the patient to let him remove her ovaries and tubes so as to prevent bladder troubles at her menstrual periods; to this she consented.

On March 9th, gas and ether having been administered, a 4 in. incision was made through the scar of the operation which was performed nine months previously. The omentum was found to be intimately adherent to the abdominal wall down to within 2 in. of the pubic crest. Into this space, where the omentum was non-adherent, the ovaries and tubes were drawn up and removed completely in the usual way. The abdominal wound was then closed with continuous silk sutures in two layers (fine silk for the peritoneum and thick silk for the remaining structures). Convalescence was uninterrupted. On the 16th the bowels were relieved by an enema, the continuous sutures were removed, the wound had perfectly healed, and there was no moisture in the vagina. The patient could hold her urine for eight or nine hours. On April 6th the patient was very well and left the hospital to go home.

*Remarks by* Dr. DUNCAN.—This case—which is, I imagine, unique, not only in the manner in which the fistula was produced, but also in the subsequent treatment—presents several points of much interest. It was evidently in the beginning one of hydramnion, which condition sometimes renders diagnosis of pregnancy difficult. The deflection of the uterus to the right side probably made the medical men put aside the question of pregnancy, but it should not have done so, as it is by no means uncommon to find the gravid uterus deflected to one or other side of the middle line, especially to the right. Then as regards the formation of the fistulous opening it is impossible to say definitely whether it was caused by Hegar's dilators or by the nozzle of the syringe which was used twice daily by a nurse to give an intra-uterine douche. If, however, the injury had been caused by Hegar's dilators one would have expected the urine to commence to dribble through the vagina on the third or fourth day instead of on the eighth. The tissues of a gravid uterus are easily torn through, besides which this woman was syphilitic and any damaged structures would be more likely to break down than in a healthy patient. At all events the case well illustrates the necessity for using great gentleness and care in dilating a gravid uterus and in the use of an intra-uterine douche, which latter, in my opinion, ought never to be relegated to a nurse however experienced she may be. Having detected a fistulous opening into the cervical canal the usual course is to draw down

the cervix with volsellum forceps and then to separate the bladder wall from the uterus until the fistula is freely exposed, when it should be closed with sutures as in a vesico-vaginal fistula, leaving the opening into the cervical canal to close up of itself. In this case probably the house surgeon was unable to reach the opening in the way just mentioned, so he had to cut away the whole of the anterior lip of the cervix and one sympathises with him for having to exercise his 'prentice hand on such a difficult case. When the patient was admitted under my care I reluctantly came to the conclusion, after a careful examination, that the only way to close the fistula was by bringing the posterior lip of the cervix forwards and uniting it with the bladder wall; this of course necessitated deflecting the uterine canal into the bladder and making the woman sterile. Lastly, although cases have been recorded in which women have menstruated through the bladder without ill result it seemed to me best to avoid subsequent risks by performing cöphorectomy.

## MADRAS GENERAL HOSPITAL.

### TWO CASES OF FILARIAL DISEASE.

(Under the care of Surgeon-Captain F. J. CRAWFORD.)

CASE 1.—A man went to the Madras General Hospital on March 14th, 1897, suffering from filarial disease, the trouble for which he sought relief being periodical attacks of pain and swelling in both groins, with swelling of the "testicles" and fever. From his own account it was evident that the attacks, which were becoming more severe and frequent, were making life a burden to him. The sense of heaviness and uneasiness, the irritation of the pelvic and genital organs, the consequent fits of nervous depression and the melancholy state of mind caused by inability to carry out his marital duties were graphically described in a letter written by him while he was waiting his turn for operation in the hospital. He said that if he could not obtain relief he would end his life and his appearance and general demeanour tallied well with this statement. He was troubled with nocturnal emissions and though quite a young married man the well-known mental depression which characterises such cases was well marked in him. On examination there was discovered on the right side a hydrocele which was not of the ordinary kind, but quite soft and flabby, the skin as well being slightly thickened. Both groins were the seats of swellings which consisted of several distinct glandular enlargements and enlarged lymphatic vessels, giving to the touch the characteristic boggy feeling, gradually subsiding to some extent on firm pressure. The affection had lasted for some years and the swellings had gradually become more marked. Exacerbations occurred every month or so, at which times the local trouble increased, and on these occasions the patient's mental condition, according to his own account, was one of great despondency and anxiety about himself. He made no secret of the almost uncontrollable impulse which he had during the attacks to put an end to his life. The hydrocele was first operated on and after letting out the pinkish milky fluid the tunica vaginalis was freely removed. The affection, in fact, was treated in exactly the same manner as an ordinary hydrocele. Healing readily took place and the patient remained in hospital because subsequently to healing his groins felt heavy and swollen when he was standing. The operation on the hydrocele was performed on March 17th, and on April 14th, after he had been completely cured of the hydrocele, the left groin was operated on, as it presented more urgent symptoms than the other. Two enlarged glands were removed from the inguinal region and they presented on dissection small cavities containing milky fluid, one large gland, which was like a horseshoe in shape, curling behind the vessels on the inner side and having a large portion posterior to them. Several lymphatic vessels, which were much enlarged, were cut during the operation but they gave no trouble after being caught with artery forceps. The wound healed within a week by first intention and on the 21st the right groin was cleared out. This gave more trouble owing to the number and large size of the lymphatic vessels, the field of operation being obscured by the amount of milky fluid which exuded notwithstanding the efforts to tie the vessels. The cavity quickly refilled each time it was swabbed out and required packing with eucalyptus gauze before being dressed. This gauze was removed on the next day and the subsequent healing took place readily under a firm antiseptic dressing; the limb was kept in the flexed position for a few days. There was no swelling of the limb itself due to the lymphatic obstruction either before or after the operation. This very interesting case was rendered of further interest by the subsequent history. The patient left the hospital with the operation incisions completely healed and remained with friends in Madras for a couple of weeks before returning to his native place. About ten days after leaving the hospital he returned to say that he had just had a slight attack, but this time the skin of the scrotum had become thick and heavy without either of the groins giving him trouble and without any implication of what he called the "testicle," alluding, of course, to the tunica vaginalis, which was the seat of trouble during his former attacks. This fact pointed to the existence of lymphatic obstruction in the neighbourhood without actual enlargement sufficient to show on the surface of the body. The emissions which were so harassing no longer occurred and he stated that he was "quite a new man." He will probably return to the hospital some day with a lymph scrotum and a further operation will be necessary. Taking the case, however, as a whole no one will doubt the propriety of the different operations performed and their success in affording relief.

CASE 2.—The patient was a Eurasian who was admitted to the hospital for a troublesome swelling in the right groin in the region of Scarpa's triangle. It was the seat of periodical enlargement accompanied by fever and uneasiness. The disease had lasted for many years and was limited to this region. No symptoms pointed to the involvement of other lymphatic vessels. A longitudinal incision exposed a mass of lymph tissue which was composed of several moderately enlarged glands and dilated vessels. Oozing of lymph was free during the removal and it was found to be impossible to secure all the discharging points. The upper half of the incision was therefore stitched and the cavity was firmly packed with antiseptic lint. Several ounces of lymph must have been lost. Healing, though delayed by the fact that the wound was obliged to be kept open, was complete and uneventful. The oozing of the lymph ceased on the third day and did not recur and the patient left the hospital with his local trouble quite cured. On examining the removed mass a probe could readily be passed along the dilated vessels, which were seen to anastomose freely. No filariæ, however, were detected in the tumour.

*Remarks by* Surgeon-Captain CRAWFORD.—Some interest has been excited by a paper read recently before the Bombay Medical and Physical Society on filarial disease. This disease is common in Southern India and the Madras General Hospital is seldom without a case in its surgical wards which is either being operated on or awaiting operation. After long trial we have arrived at fairly definite rules to guide us in the treatment of this affection by operation. The disease which is known as filariasis cannot now be looked upon as being of purely a local character in any instance. When a patient is attacked by the parasite he probably remains a victim as long as he lives. The question of operation therefore resolves itself into the treatment of the different local troubles and inconveniences arising from the blocking up of the lymphatic system in different parts of the body. Many of these local troubles are subjected to operation with very decided success, so much so that there is neither doubt nor hesitation on the surgeon's part provided that the general condition is satisfactory—in fact, the ordinary limitations attending all surgical procedures which are undertaken where life itself is not in the balance. I need only mention lymph scrotum, filarial hydrocele, and abscesses occurring in the course of lymphatic vessels where dead parent worms lie embedded. Though the system may still contain numbers of the parasites there is no doubt regarding the utility of the procedure and the relief obtained. In these cases, though the disease is the result of interference with the flow of lymph, the glands and the main lymphatic vessels themselves are not found to exhibit symptoms. In another class of patients the blocking of the lymphatic system in a part shows itself in dilatation of the lymphatic trunks, which contain a pinkish milky fluid and have thickened walls. These dilatations occur usually in the neighbourhood of glands and on careful dissection enlarged lymph vessels may be seen passing into and others passing from them to other dilatations or to the glands close by. Accompanying these are enlarged glands due either to

thickening of their tissue and proliferation of the numerous lymphoid cells they contain or to enlargement of the lymph spaces in their structure. The groin is commonly affected, both the femoral and inguinal regions participating in the trouble and frequently on both sides. It is extremely probable in these cases that the pelvic and other internal lymphatics are also enlarged, especially where the affection is symmetrical, and at first sight it would appear that removal of the groin glands would give only temporary relief of the symptoms and be followed in a very short time by a return of the local trouble in its former severity. Surgical interference, however, yields more favourable results than this. That treatment is urgently needed in many cases is seen by the number of patients who come to our wards and by the severity of the local symptoms. One of the cases related above is a good example of this. As swelling occurs at periodical intervals, the sense of weight and fulness increases, pain, weariness and lassitude are complained of, with reflex irritation of all the pelvic organs, rendering the patient's life a misery to him. The fever, too, is severe and quite incapacitates him in his work, sometimes each attack lasting as long as ten days. A successful operation means much to the patient, and while it cannot be said to cure the general disease it takes away completely his local trouble. It must be remembered, too, that these local manifestations take years to develop. The surgeon in India is, of course, confronted with the difficulty of tracing the subsequent histories of many of his patients and this may detract from the value of individual accounts of cases; but so far as it has been possible to trace them patients are quite satisfied with the treatment and its subsequent result. Local recurrence, too, is practically unknown.

The wounds caused by complete removal of filarial glandular enlargement and lymphangiectasis have always been looked upon here as in no way differing from ordinary surgical wounds and no case so far has occurred to induce us to look upon them in any other way. Careful dissection is naturally required, but owing to the small area involved one pair of hands suffices to carry out the necessary steps of the operation and external contamination is reduced to a minimum. For this reason we look upon these cases as peculiarly suited to operative measures. Considering the comparative simplicity of the measures and their results as detailed above I would not have thought it necessary to write on this form of local consequences of filarial disease had not very different results been obtained in Bombay following these operations. I am not aware that any elaborate statistics have been compiled on this individual subject, but the fact is we in Madras have not thought it necessary. We have looked upon all local filarial manifestations as being subject to ordinary surgical considerations when the question of operation was suggested by the arrival of a patient exhibiting them.

# Medical Societies.

## OBSTETRICAL SOCIETY OF LONDON.

*Uterine Fibroids in Young Women.—Complete Incontinence of Urine cured by Ventro-fixation of the Uterus.—Exhibition of Specimens.*

A MEETING of this society was held on June 1st, Dr. C. J. CULLINGWORTH, the President, being in the chair.

Dr. HERBERT SPENCER read a paper on Two Cases of Fibro-myoma of the Uterus removed by operation from women under twenty-five years of age. The diagnosis of the nature of the tumour was verified by examination with the microscope and the ages of the patients by obtaining their certificates of birth. In the first case, in which the age of the patient was twenty-four years, the tumour weighed 4 lb. 9½ oz. and was removed by amputation after laparotomy, the pedicle being treated extra-peritoneally. In the second case, that of a patient aged twenty-three years, the tumour with the uterus weighed 16½ oz. and was removed by vaginal hysterectomy after the peritoneum had been opened in an attempt to enucleate the tumour. The patients were in good health two years and one year after operation respectively. A brief abstract was given of 40 recorded cases of uterine fibroid tumours occurring in women under twenty-five years of age. In at least 11 of the cases the diagnosis was clinical and in only 4 cases was the diagnosis verified by examination with the microscope. Dr. Spencer concluded that uterine fibro-myoma is rare before the age of twenty-five years and very rare before the age of twenty years and that there is no satisfactory record of its occurrence before the age of puberty.—Dr. BOXALL gave details of his case referred to by Dr. Spencer. The patient was born on Aug. 9th, 1870. She was therefore just twenty-three years of age when she came under observation in August, 1893. On account of pain and fever an operation was performed. Two fibroid nodules not larger than a nutmeg were visible on the abdominal surface of the uterus near the fundus. A mass in the left broad ligament was enucleated and removed with the uterus and appendages, the pedicle being secured by a clamp outside the abdomen. The mass proved to be composed of involuntary muscle growing from the left side of the uterus. Under the microscope it exhibited the ordinary characters of a fibro-myoma.—Dr. HERMAN, in reference to some remarks by Dr. William Duncan, said that his opinion as to the practicability of enucleation in the case of the tumour shown by Dr. Duncan at the November meeting of the society remained the same as it was in November. He did not think Dr. Duncan had shown (as was stated in the Transactions) that the uterus might easily have been perforated had enucleation been attempted. He thought, on the contrary, that by morcellement the fibroid could easily and safely have been removed. He did not think Dr. Spencer's case showed that any greater damage attended enucleation, for his patient had recovered as well as she could have done after abdominal hysterectomy and without the disadvantage of an abdominal scar. He (Dr. Herman) thought the preliminary dilatation was most safely done by tents.—Dr. PETER HORROCKS did not think that the paper was intended to provoke a discussion on the relative merits of enucleation of fibroid tumours of the uterus and their treatment by hysterectomy. It had been said by Mr. Alban Doran that these tumours never occurred, or were practically unknown, before the age of twenty-five years. It must be admitted that true fibroids—that is, fibro-myomata—of the uterus were rare before the age of twenty-five years and were unknown before puberty. They were also much commoner in single women than in married women, and in women who had never been pregnant than in women who had. Moreover, the tumours began to atrophy, as a rule, after the climacteric. All these facts proved that in some way fibroids were associated with active menstrual life.—Dr. LEWERS agreed with the remarks which had been made by Dr. Herman as to enucleation. He considered that the justifiability of enucleation *per vaginam* depended chiefly on the position of the fibroid in relation to the uterine wall. When the fibroid was so situated that its largest diameter projected free in the uterine cavity and only a moderate part of the tumour (one-third or less) still remained embedded in the thickness of the uterine wall enucleation by morcellement *per vaginam* was free from any great risk and was the proper treatment for the case. When, however, examination showed that the largest diameter of the tumour was still in the thickness of the wall of the uterus he regarded enucleation as exceedingly dangerous.—The PRESIDENT said that in the course of a discussion upon a specimen of fibroids of the uterus in a woman twenty-six years of age shown for him by Dr. A. F. Stabb fifteen months ago Mr. Doran had remarked that a monograph on the subject of fibroids in early life was much wanted. Such a monograph had now been produced. It was to be hoped that Fellows would henceforth recognise the importance of recording on the lines Dr. Spencer had laid down as essential for scientific accuracy all cases that came under their observation of uterine fibro-myomata occurring in young subjects. As regards enucleation *per vaginam* he was bound to say that in his experience this method had proved more dangerous than removal of the entire uterus.—Dr. SPENCER, in reply, said that the object of the paper was to show that fibro-myoma of the uterus did occur in women under twenty-five years of age. Its rarity, judged by public records, was shown by the fact that Dr. Boxall's was, as far as he knew, the only other case fully and satisfactorily described by an English author. He had not discussed the treatment of these cases, but he might say

that enucleation of submucous tumours *per vaginam* had given him very good results and was an exceedingly valuable operation.

Dr. MACNAUGHTON JONES read notes of a case of Complete Incontinence of Urine cured by Ventro-fixation of the Uterus.

The following specimens were shown:—

Mr. DORAN: Blood Concretions in the Ovary.

Mr. BLAND SUTTON: An Ovary containing a Calcified Ball, probably a large calcified corpus fibrosum.

Mr. A. BURTON: A Deformed Fœtus.

Dr. HORROCKS: A Uterine Fibroid undergoing Cystic Degeneration.

Dr. LEWERS: Primary Sarcoma of the Body of the Uterus (Deciduoma Malignum), the patient remaining well sixteen months after hysterectomy.

Dr. A. ROUTH: (1) An Ovarian Dermoid Cyst removed by the Vagina during Pregnancy; and (2) Ruptured Tubal Gestation of from three to five weeks' duration.

Dr. W. DUNCAN: A Five-months' Fœtus born with Placenta and Membranes Intact.

## HARVEIAN SOCIETY OF LONDON.

*Jacksonian Epilepsy.—Idioglossia.—Insufficiency of Pulmonary and Mitral Valves.—Heart Disease.*

A MEETING of this society was held on May 26th, the President, Dr. J. F. GOODHART, being in the chair.

Dr. JAMES TAYLOR showed a case of Jacksonian Epilepsy. The patient three months before admission to hospital had a fit commencing in the right foot, spreading upwards, and leading to loss of consciousness followed by weakness of the right side but not by any speech affection. There had been other attacks of a similar nature, and since the last the weakness of the right leg had persisted and was accompanied by weakness of the other lower extremity. Dr. Taylor thought that the symptoms pointed to a local lesion, probably gummatous, over the leg area in the left cerebral hemisphere. There was no optic neuritis and now no headache, although headache had been present.—The PRESIDENT asked whether syphilitic vascular lesions were not more commonly found in such cases than gummata.—Dr. TAYLOR, in reply, said that in his experience the condition giving rise to localised fits was more frequently a thickening of the meninges than arterial disease.

Dr. LEONARD GUTHRIE showed a case of Idioglossia associated with Pseudo-hypertrophic Paralysis. The patient, a boy aged seven years, was a well-marked example of pseudo-hypertrophic paralysis. The symptoms were of about two years' duration. The lower extremities were chiefly affected, the gastrocnemii and vasti externi being extremely large and firm. A brother of his had died from this disease at the age of fifteen years. The term "idioglossia" had been given to the peculiar defects of speech exhibited by this patient. It was open to objection because the subjects did not speak a peculiar language of their own; they spoke English, but mis-pronounced letters and words. In this case the defect consisted in the substitution of consonants for each other and in the substitution of vowel sounds for certain consonants. (The patient then illustrated his mode of speech by repeating the alphabet, reciting certain nursery rhymes, and singing a well-known hymn.) It was shown that whilst capable of producing all the elementary sounds of which language is composed he used them in the wrong place and was unaware whether or not he produced them correctly. The defect was therefore rather in his ear than in his motor vocal apparatus. He was unable to discriminate shades of difference between sounds. In favour of this view was the fact that he had almost no ear for music. If his attention could be gained he could be made to frame his lips and tongue in imitation of the speaker and then he pronounced letters and words correctly. But his attention soon wandered and his utterance became as faulty as before. His auditory memory was probably defective; his visual memory was certainly so, because he could not copy letters correctly unless he could keep his eyes on the copy and on his pencil at the same time. Such cases were sometimes much improved by training on the oral method. Dr. Guthrie did not regard the condition as pathological but as an exaggerated form of defective enunciation common in minor degrees. The patient's elder brother (who died from pseudo-hypertrophic paralysis) and also a younger sister had similar defects of speech, but there was no causal connexion between pseudo-hypertrophic paralysis and idioglossia.

Dr. MACLURE showed a woman, twenty-four years of age, who was the subject of Insufficiency of the Pulmonary and Mitral Valves. She had suffered from cardiac symptoms ever since she could remember and her life till two years ago had been spent in various hospitals. She came under his notice eighteen months ago and remained bed-ridden till last March when she had an attack of mania, since which time her general health had much improved. A to-and-fro murmur could be heard loudest in the pulmonary area and conducted downwards to the left of the sternum. The apex beat of the heart was felt in the fifth intercostal space in the nipple line. There was a presystolic thrill at the apex with other evidence of double mitral disease. Against the view that the case was one of mitral disease pure and simple were the point of maximum intensity and characters of the to-and-fro murmur, whilst the absence of Corrigan's pulse, capillary pulsation, and of much hypertrophy and dilatation of the left ventricle pointed to pulmonary rather than aortic disease.—Mr. JACKSON CLARKE observed that the appearance of a swelling in the left supra-clavicular region was due to a very sharp spinal curve (scoliosis) high in the dorsal region. This degree of scoliosis would be sufficient to account for some of the dyspnœa present.

Dr. G. A. SUTHERLAND showed a boy, aged nine years, who was suffering from Heart Disease. His peculiar complexion and the duskiness of his hands suggested a congenital lesion. There were also definite evidences of acquired endocarditis and pericarditis. The extensive area of præcordial dulness and pulsation further suggested the possibility of mediastino-pericarditis, to which support was lent by the extremely chronic character of the pericarditis.—Dr. ALEXANDER MORISON, remarking on Dr. Sutherland's case, considered that in view of the cyanosis present and the great transverse dimensions of the heart congenital stenosis of the pulmonary arterial orifice with patent septum ventriculorum suggested itself; but further examination of the case, associated as it was with triple rhythm and chronic pericardial friction, pointed rather to mitral regurgitation with pericardial adhesion. The case exhibited by Dr. Maclure he regarded as one of mitral stenosis. He could not satisfy himself that there was any pulmonary arterial reflux.

## EPIDEMIOLOGICAL SOCIETY.

*Enteric Fever at Norwich.*

A MEETING of this society was held on May 20th, Professor J. LANE NOTTER, President, being in the chair.

Dr. W. H. COOPER PATTIN read a paper on Enteric Fever at Norwich. The city, he said, was on the chalk, which was there about 1000 feet deep, and where it did not come to the surface was thinly covered by loose drift gravels. The water-supply, in the hands of a company, was drawn from the River Wensum, which rose on a plateau nearly thirty miles distant, flowing through a purely agricultural district. The intake, which averaged 1,500,000 gallons per diem, was about a mile above the city, the nearest source of serious pollution being a paper mill four miles higher up the river. The arrangements for subsidence and filtration were excellent and the water was served from covered storage reservoirs by gravitation at the rate of 18 gallons per head a day, but the actual quantity available was greater, since one-fifth or until recently one-fourth of the population obtained their supply from private wells, and very few houses had baths. These wells were shallow and more or less suspicious, and he had during his five years of office obtained the closure of nearly 200. The sewerage was by no means satisfactory, the old sewers being very ill-laid; they were freely ventilated by gullies and shafts and the flow of the sewage was assisted by Shone's ejectors, but bad smells were frequent, especially on the escarpment of the higher ground. There was no adequate hospital accommodation for fever patients and secondary or successive cases in the same house were of frequent occurrence. Only a minority of the houses were provided with water-closets, the usual form of convenience being the "bin," a sort of combined privy, ash and refuse pit, or a pail closet, but there was as a rule only a single pail, which was emptied by the scavenger but never cleaned. Notification of infectious diseases had been in

force since 1880, but the few cases and apparently high case mortality during the first few years were probably to be explained by imperfect diagnosis of the milder forms of enteric fever. Since 1883 the cases had varied between 106 and 314 per annum, and the deaths between 19 and 36, except in 1885, in which year with 584 cases and 92 deaths the disease assumed the proportions of an epidemic. The average for the whole period had been 214·5 cases with 30·5 deaths, or a mean case mortality of 14·5 per cent. Dr. Cooper Pattin then gave analyses of the age incidence, the relative overcrowding of the affected houses, the proportion of the houses attacked supplied with the company's water and from wells, the relative incidence of disease on houses with water-closets, pail-closets, and bins respectively, proximity to sewer gullies, the state of the yards and other domestic sanitary conditions, the occupations of the persons attacked, and the possible influence of milk, shellfish, and the conditions under which the food was kept for the last three years. As regards age 43 per cent. were under fifteen years, and the persons attacked belonged almost exclusively to the working classes; but beyond the facts that while a fourth of the houses in the city were provided with water-closets only one-tenth of the cases occurred in such, and that 70 per cent. of the affected dwellings were surrounded by soil sodden with impurities, no definite conclusions could be drawn from these figures.

Dr. PARSONS expressed his belief that the direct transmission of enteric fever from one person to another was more frequent in the overcrowded dwellings of the poor than was commonly supposed and remarked that the case mortality to a great extent depended on accuracy of diagnosis, that the lesser incidence on houses with water-closets might be due to the more cleanly habits of the occupants in other respects, and that outbreaks caused by milk were often so local and limited as not to influence the general prevalence of the disease and to be seen only in spot maps.

Dr. CHILDS asked if Pettenkofer's ground-water theory had been worked out in Norwich.

Dr. BULSTRODE and Dr. REGINALD DUDFIELD criticised the statistics, as did Dr. WILLOUGHBY, who pointed out the fallacies consequent on the relations between the incidence of the disease and the several factors under consideration having been calculated on the affected houses only instead of on the total number in the city. He called attention to the probability under the conditions described of the contamination of wells at great distances from the source of pollution.

## MANCHESTER THERAPEUTICAL SOCIETY.

*Diuretin.—"Glucophenin."*

THE fifth meeting for the session 1897-98 was held at the Owens College on May 25th, Dr. J. DIXON MANN presiding.

Dr. DRESCHFELD read a paper on Diuretin. After referring to the experimental results and clinical experiences of this drug recorded by some continental observers Dr. Dreschfeld stated that he had employed diuretin in many cases during the past eight years and he considered it a valuable remedial agent. He had found it act well in acute Bright's disease, especially in cases in which the urine was scanty. He had frequently seen the urine increase in amount from 12 or 15 to 80 or 100 oz. in the twenty-four hours. In post-scarlatinal nephritis the drug did not seem to give such good results. In chronic parenchymatous nephritis he had found it act when digitalis and other drugs had not succeeded, but the effects were only temporary. There was no definite reduction of the amount of albumin. On the other hand, there was no evidence of irritating action. In interstitial nephritis the results had been disappointing and in these cases toxic effects were more liable to occur. As regards its use in heart disease Dr. Dreschfeld had found diuretin of great value in cases of mitral disease, especially when the dropsical symptoms had come on suddenly. In aortic disease the results had not been so satisfactory: there was no relief to the anginal symptoms, no great diuresis, and the drug was not always well borne. In simple dilatation without valvular lesion where digitalis had failed diuretin had sometimes succeeded. In cirrhosis of the liver the effects of diuretin were sometimes startling. He had seen diuresis amounting to four or five quarts of urine in the twenty-four hours. The cases which seemed to respond best to diuretin were those in which dropsy had developed suddenly. In older people with ascites coming on gradually diuretin had failed. In two cases of pleuritic effusion Dr. Dreschfeld had observed rapid recovery under the use of diuretin, but in other cases no marked effect was observed. In cases of peritonitis no relief had been obtained; he had not tried the drug in pericarditis and did not think it likely to be of much use. Dr. Dreschfeld considered diuretin to be a useful and powerful diuretic, acting probably on the epithelium of the convoluted tubules of the kidney. He gives it in from 10 to 12 gr. doses three times a day at first, increasing to 30 gr. doses if necessary. As regards its ill-effects, sometimes diuretin is not well borne, producing nausea, vomiting, and occasionally signs of collapse. Often when diuretin alone does not answer it succeeds on combining it with digitalis.—The SECRETARY, on behalf of Dr. STEELL, showed a series of charts illustrating the Diuretic Effects of Diuretin in cases of aortic disease, mitral disease, functional heart disease, cirrhosis of the liver, and pleurisy. One of the charts showed a marked diuretic effect obtained three times in succession in the same patient. Dr. Steell gives diuretin in 2 gr. doses every hour day and night. In two cases of Bright's disease he had observed hæmaturia following the use of diuretin and had not employed the drug in such cases since.—Dr. MANN had observed similar results to those described by Dr. Dreschfeld, but he had obtained no good effects in cases of large white kidney. In heart cases he had found diuretin very useful. In cirrhosis of the liver he had observed little result, perhaps because the cases were of more gradual onset. He had found theobromine alone very useful and suggested that theobromine in some soluble form might be more advantageous than diuretin, which was sometimes depressing owing to the salicylate of sodium which it contained.—Dr. WILD and Dr. COUTTS also took part in the discussion.

Dr. WILD then made a preliminary communication on the Constitution and Pharmacological Action of a New Synthetic Compound "Glucophenin," in which the phenetidin molecule was combined with a glucose molecule. The product was a crystalline solid, soluble in water, and almost tasteless. The drug showed a remarkable absence of toxic effect and there was already some evidence of therapeutic value in certain cases.

# Reviews and Notices of Books.

*Die Infectiös-eiterigen Erkrankungen des Gehirns und Rückenmarks.* Von WILLIAM MACEWEN, M.D. Glasg. Autorisirte Deutsche Ausgabe von Dr. PAUL RUDLOFF. (*Pyogenic Infective Diseases of the Brain and Spinal Cord.* By WILLIAM MACEWEN, M.D. Glasg. Authorised German Edition by Dr. PAUL RUDLOFF.) Wiesbaden: J. F. Bergmann. Glasgow: F. Bauermeister. 1898.

THERE are few surgical works which more merit the honour of translation into a foreign language than the one wherewith Dr. Macewen enriched our literature some five years ago. By common consent this admirable monograph upon the "Pyogenic Infective Diseases of the Brain and Spinal Cord" was admitted to be amongst the most scientific and practical writings upon a subject which opened up new prospects for the successful intervention of surgery in a class of disease which hitherto had been regarded as almost beyond the reach of such interference. Thus apart from its intrinsic merits the work assumed from the first a very important position in surgical literature. Its thoroughness and accuracy are such as cannot but commend it to the favour of the profession in Germany, accustomed as they are to exhaustive literary enterprises, and Dr. Paul Rudloff has doubtless gauged rightly the cordial reception which the book will receive in his country. He has, too, acquitted himself well in the task of translation and has wisely refrained from adding anything to a book which is so largely based on the personal experiences of its author. We may briefly recall the fact that the work opens with a compendious and faithful description of the surgical anatomy

of the temporal region, the cerebral membranes and sinuses, and then deals with the pathology of cerebral abscess and meningitis, the clinical chapters treating first of the symptoms of cerebral abscess and then of sinus thrombosis. Then come a chapter upon treatment and a final summary of the results obtained by the author in his surgical advances in these regions. On these results of a series of operations, commencing with the opening of an abscess in the temporo-sphenoidal lobe in 1881, there is little need to dwell. They comprise operations on the mastoid in middle ear disease, for suppurative pachymeningitis and leptomeningitis, thrombosis of the longitudinal and the sigmoid sinuses, as well as for cerebral and cerebellar abscesses. And the encouraging results obtained, constituting true surgical triumphs, have become familiarised to the profession, thanks mainly to the pioneer work of the Glasgow surgeon.

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*Handbuch der Gynäkologie.* In drei Bänden. Herausgegeben von J. VEIT (Leiden). Zweiter Band. Mit zahlreichen Abbildungen. Wiesbaden: Verlag von J. F. Bergmann. (*Handbook of Gynæcology.* In Three Volumes. Edited by J. VEIT (Leyden). Vol. II. With numerous Illustrations. Wiesbaden: J. F. Bergmann.) 1897. Pp. 814.

WE had occasion to notice with approbation the first volume of this valuable work in which the editor has had the advantage of the coöperation of some of the best gynæcologists in Germany, amongst whom may be mentioned Professor E. Bumm of Basel, Professor A. Döderlein of Leipsic, Dr. H. Fritsch of Bonn, and Professor W. Nagel, Dr. R. Olshausen, Dr. R. Schaeffer, and Dr. G. Winter, all of Berlin, besides others with not less illustrious names. The distribution of the subjects amongst the contributors has been carefully made and the several memoirs are written by men not only of acknowledged ability but who are in most instances well known to be familiar with the subject which has been assigned to them.

The second volume opens with an article by Dr. Heinrich Fritsch of Bonn on the Diseases of the Bladder in the Female and is illustrated by 50 woodcuts. The teratology of the bladder is given, followed by some statistics in regard to the capacity of this organ. He finds that the quantity of urine passed by women as a rule varies from about 1½ oz. to 10 oz., a certain number voiding a small quantity with frequency as a precautionary measure against possible emergency. In cases of cystitis, in which the bladder was washed out and the patient directed to complain as soon as pain was felt, the injection of from 10 to 12 oz. of water usually produced discomfort. When, however, from any slowly operating cause the bladder becomes distended as much as 38 oz. of urine may be evacuated with the catheter and in one instance he drew off 109 oz. Dr. Fritsch, whilst enumerating the causes of cystitis in accordance with the scheme of Dr. Barlow—viz., (1) chemical; (2) bacillogenous, including tuberculosis, bacterium coli, urobacillus liquefaciens septicus of Krogius and Schnitzler, coccobacillus of Rovsing; and (3) coccogenous, including diplococci, staphylococci, streptococci, and gonococci—holds that this view cannot be as yet unconditionally accepted because there is a want of accordance in the statements of different authors, Krogius in particular having observed a bacterium without cystitis and, conversely, cystitis without microbes. When micro-organisms are found in the bladder they may easily have been introduced by a want of care in the cleansing of catheters, and acute cystitis may be established within a few hours of such introduction. At the same time there can be little doubt that microbes may penetrate into the bladder and be shown to be present in the urine without a catheter having been at any time introduced and, indeed, a sufficient proof of such spontaneous entrance is afforded by the occurrence of gonorrhœal cystitis. Dr. Fritsch gives a striking picture of the consequences which may befall an unfortunate patient who is pregnant and who suffers from retroflexion of the uterus in the hands of an ignorant midwife, for with retention of urine, with congestion, hyperæmia, infection, and injury to the bladder from the unskilful attempts to introduce a catheter it would be a wonder, he remarks, if cystitis were not produced, and in such cases fatal septic peritonitis is not uncommon. In the treatment of cystitis, besides injections of boric acid he recommends salol taken internally in doses of 30 or 40 grains per diem, salicylate of soda, potassium chlorate, and opium and belladonna.

A good account is given of urogenital fistulæ, upon nearly 200 cases of which Dr. Fritsch has operated during the last ten years, all with one exception having been caused by injuries inflicted during childbirth. He gives drawings of various specula, forceps, retractors needle-holders and needles, as well as of a table and appliances well adapted for the performance of operations for the relief of this affection. Many drawings also illustrate the direction in which incisions should be made and the manner in which the sutures should be introduced. He recommends sterilised water, boric acid in 4 per cent. solution, and silver nitrate in ½ per mille solution for the purposes of irrigation.

In the chapter on Inflammations of the Uterus by Professor Döderlein it is shown that whilst various bacteria inhabit the vagina none are found in the cervix or in the body of the uterus or in the Fallopian tubes. This constitutes an important criterion for diagnosing the healthy from the inflamed uterus, and the concordant results of many observers demonstrate that there is one group of cases of metro-endometritis which arise without the coöperation of bacteria and another which includes the varieties denominated septic and saprophytic, gonorrhœal, tuberculous, syphilitic, and diphtheritic. Each of these is minutely described.

Just one-half of this volume is devoted to the subject of Myoma of the Uterus, which is subdivided into six sections. Professor K. Gebhard of Berlin gives the anatomy and histology of myoma; Dr. J. Veit of Leyden its symptomatology, diagnosis, and prognosis; Dr. R. Schaeffer of Berlin the treatment of the affection by electricity; Dr. J. Veit the palliative treatment and the vaginal operations required for its removal; Dr. R. Olshausen of Berlin the abdominal operations for myoma; and the same writer the relations of myoma to pregnancy. The subject, therefore, is treated in the most exhaustive manner and the account here given of this formidable and formerly very fatal disease may be regarded as the most complete and instructive that is extant. True myoma, in which the tumour consists exclusively of muscular tissue, is only found in the early stages of its development; at a later period its becomes mingled with connective tissue and is then known as fibro-myoma or fibroid. Such tumours are often numerous in the same uterus and may attain a very large size. In regard to position, they may be submucous, interstitial, or subserous. Many woodcuts are appended to Dr. Gebhard's paper showing their position and form. A special variety of myoma is adenomyoma, in which gland tubes are found supposed by some to be the uterine glands and by others to be the remains of the canal of Gaertner, but which have been demonstrated by Recklinghausen to be either the uterine glands or remains of the Wolffian body. The pathological changes which may take place in myomatous tissue (such as atrophy, calcification, fatty and amyloid degeneration, necrobiotic degeneration, and gangrene) and the mixed tissue which may appear (such as enchondroma, sarcoma, osteoma, carcinoma, rhabdomyoma, and malignant leiomyoma) are all fully described. The diagnosis of myoma and of its complications is given with great care and minuteness of detail by Dr. Veit. The section on the treatment of myoma by

means of electricity by Dr. Schaeffer is practical and will be read with interest by every practitioner, showing, as it does, the advantages of this method, which was first applied by Dr. E. Cutler and greatly improved and extended by Dr. Apostoli. The instruments required and the mode of their application are described in great detail and references are given to an immense number of cases by different operators which seem to have been in most instances attended with extraordinary success, though various surgeons are opposed to this plan of treatment probably from want of care in attending to the contra-indications, such as hysteria, intestinal catarrh, pregnancy, malignant degeneration of the myoma and fibrocystic degeneration and suppurative inflammation in the adnexa. Dr. Veit naturally discusses at some length the relative merits of the vaginal and abdominal sections for the removal of the tumour, and describes in detail the methods of operating through the vagina for the removal of myomatous polypi for the enucleation of submucous myomata and for the extirpation of the uterus, leaving the abdominal section to Dr. Olshausen. Dr. Veit lays down the rule that all tumours which occupy the pelvis or can be pressed down into that cavity can be removed through the vagina, though the steps of the operation must vary with the size of the tumour, its seat, and the extensibility of the cervix. In any case the whole of the tumour should if possible be removed at one sitting and Dr. Veit, if enlargement of the cervix is required, makes an incision directly downwards in the middle line.

The removal of fibroids by abdominal section and enucleation seems to us to be in every respect preferable to the vaginal operation and is strongly advocated by Dr. Olshausen in his article on the subject. The exposure and complete removal of the tumour or tumours is certainly more easily effected. The bleeding can generally be restrained by pressure without having recourse, as Dr. Olshausen states that on one occasion he practised, to ligature of the two internal spermatic arteries. Sepsis, if due precautions are adopted, can be avoided and damage to the bladder must surely be very exceptional, whilst this method has the immense advantage of leaving the organ in a fairly healthy condition, as is sufficiently proved by the circumstance that pregnancy has occurred on more than one occasion after it has been practised. Dr. Olshausen quotes a case under Dr. Biermer's care, however, in which after removal of a small fibroid vomiting followed by stoppage of pulse and arrest of breathing occurred—symptoms which a post-mortem examination showed were due to the entrance of air into the uterine veins and the formation of foam and froth in the right auricle. Dr. Olshausen himself has had 3 deaths in 38 operations, all from sepsis.

The mortality in the practice of different gynæcologists is given in great detail, Professor Chrobak after Dr. Olshausen taking the lead in the success which has attended his operations, for in 141 operations for myoma with 9 enucleations he had not a single fatal result, and Dr. Carl von Braun had in 8 cases only one death. Martin in 96 cases had 18 deaths. The accounts of these cases make it abundantly clear that the opening from without into the uterine cavity greatly increases the risks of the operation.

We regret we have no space to do more than allude to the section on Physical Methods of Examining the Bladder, written by Dr. F. Viertel of Breslau, in which the value of endoscopy is shown in the diagnosis of catarrh of the bladder, of hæmorrhage into it, and for the determination of the presence of tuberculosis, calculi, foreign bodies, and tumours in its interior. Many drawings illustrate the instruments which are in common use and an excellent bibliography precedes this as well as every other section of the work.

*Technical Mycology.* By Dr. FRANZ LAFAR, Professor of Fermentation-Physiology and Bacteriology in the Imperial Technical High School, Vienna, with Introduction by Dr. EMIL. CHR. HANSEN, Principal of the Carlsberg Laboratory, Copenhagen. Translated by CHARLES T. C. SALTER. In Two Volumes. Vol. I., Schizomycetic Fermentation. London: Charles Griffin and Co., Ltd. 1898. Price 15*s.*

THE study of Bacteriology has indeed opened a wide field. The subject is generally associated with disease, but we have learned and are still steadily learning how friendly is the action of by far the greater number of species of bacteria. The bacteria of disease, the pathogenic organisms, are after all but a tithe compared with the numbers and species which are found working faithfully in the interests of mankind. When specific non-pathogenic microbes are in healthy action and in out-numbering quantities the pathogenic microbes succumb and give up the race for existence. We have therefore to deal with countless microscopic engineers, so to speak, organisms productive on the one hand of evil and on the other of good, and our endeavours should be to study the conditions under which the former may be overthrown and their growth prevented, and to discover those congenial conditions under which the useful functions of the latter may not be frustrated or hindered but rather encouraged. The volume before us is doubly instructive. It shows the false conceptions of the past and it suggests in the future a field of enormous importance in the arts and industries and in sanitation by indicating how bacteria may be serviceably engaged in the production of a great number of useful substances and in the disposal as well as in the utilisation of effete and harmful products. When to destroy and when not to destroy bacterial life is the problem to be solved. Sanitary diagnosis has not infrequently erred in this direction to the detriment of life and at a considerable waste of public money. In the matter of sewage disposal perhaps we have the best example of the result of applying incomplete knowledge. At one time it was considered correct to sterilise sewage by chemical treatment and thus arrest the development of bacteria. The object was, of course, to destroy the pathogenic organisms. Such methods invariably failed not only from the economical point of view, but, it must be admitted, from the hygienic point also. It is well known now that when full opportunity is given to the action of the ubiquitous microbes sewage may not only be disposed of in the cleanliest possible way but converted into innocuous products which are a decided gain to vegetation. The benign functions of certain bacteria are being ascertained in other directions and a new application of bacteriological science appears which takes for its name the title of this book—viz., technical mycology. The chapters teem with interesting matter from beginning to end. Nor are the subjects which are discussed of interest to a few only. When the work is described, and correctly described, as "a practical handbook on fermentation and fermentative processes for the use of brewers and distillers, analysts, technical and agricultural chemists, pharmacists, and all interested in the industries dependent upon fermentation," it is obvious that the circle of readers whom it should directly interest will not be very narrow. Further, the student of pure science, the inquirer after truth, and the teacher will welcome such a valuable collection of material—material which has accrued from the labours of patient and ardent workers in bacteriological science during the last decade or so.

The plan of the work is as follows. Volume I., the copy of which is before us, treats of bacteria. The first chapters are devoted to an introduction to the subject, which is subdivided into three parts: I. The Theory of Spontaneous Generation; II. Theories of Fermentation; and III. The

Organisms of Fermentation. Under Division I. occurs the heading Schizomycetic Fermentation, the subject being classified into the following sections: Section I., General Morphology and Physiology of the Schizomycetes; Section II., General Biology and Classification of Bacteria; Section III., Principles of Sterilisation and Pure Cultivation; Section IV., Chromogenic, Photogenic, and Thermogenic Bacteria; Section V., the Heat-resisting Bacteria, their Place in Nature and their Importance in the Fermentation and Food-stuff Industries; Section VI., Lactic Fermentation and Allied Decomposition; Section VII., the Formation of Mucus and Allied Phenomena of Decomposition; Section VIII., Decompositions and Transformations of Organic Nitrogenous Compounds; and Section IX., Oxidising Fermentations. In the section on the filtration of drinking-water we find that no reference is made to the great purifying effect of sedimentation, as in the removal of micro-organisms from water by entanglement with finely-divided, insoluble substances in the act of subsiding. As both Sir Edward Frankland and his son, Dr. Percy Frankland, have shown, water may be rendered practically sterile by the addition in proper quantity of certain powdered insoluble substances, and on a large scale sedimentation is undoubtedly a most important factor in the bacterial purification of water for drinking purposes. All these sections afford most interesting reading. Here may be learned the best means of cultivating bacteria to useful ends in the arts and manufactures, the methods enjoined being clearly and practically indicated to the intelligent reader. The part played by bacteria in distilling and brewing, in the preparation of wines, in the manufacture of vinegar, in the dairy, in farming, in the preparation of agricultural fodder, and in the manufacture of tobacco and sugar, &c., are plainly described and the moral of it all is clearly conveyed. Next are chapters on the bacteria busily occupied in the great natural processes, the nitrifying organism, the nitrogen-assimilating organism, and the iron and sulphur bacteria. Chemists have failed to account for the great natural beds of iron, sulphur and saltpetre in various parts of the earth. It is probable that these after all are the harvest of the countless microscopic agencies evolving simple substances out of complex compounds.

We have said enough in evidence of the very interesting character of the book. It is the first work of the kind which can lay claim to completeness in the treatment of a fascinating subject. The plan is admirable, the classification simple, the style good, and the tendency of the whole volume is to convey sure information to the reader. We look forward with more than ordinary anticipation to the second volume.

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*Die Blennorrhöe der Sexualorgane und ihre Complicationen.* Dargestellt von Dr. ERNEST FINGER, K.K.A.Ö., Professor der Dermatologie und Syphilis an der Universität in Wien. Mit 36 Holzschnitten im Text und 9 Lithographischen Tafeln. Vierte wesentlich vermehrte und verbesserte Auflage. 1896. Leipzig und Wien: Franz Deuticke. (*Gonorrhœa and its Complications.* By Dr. ERNEST FINGER, Professor of Dermatology and Syphilis at the University of Vienna. With 36 Woodcuts in the Text and 9 Lithographic Plates. Fourth considerably enlarged and improved Edition. 1896. Leipsic and Vienna: Franz Deuticke.) Pp. 396. Price 9 marks.

GONORRHŒA is a disease the importance of which has too often been under-valued; but, quite apart from its prevalence, the complications which accompany it are so extremely numerous that the treatment of the disease itself is certainly deserving of much more care than is frequently devoted to it. Professor Finger's work has been widely recognised from its first appearance in 1888 as probably the most thorough and complete treatise extant on the subject. This edition, the fourth, contains all recent additions to our knowledge of the subject, the chief new matter being the histology of Acute Urethritis, and of Gonorrhœal Rheumatism, Periostitis and Bursitis. Recent improvements in the methods of treatment have also been added.

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*The Treatment of Wounds, Ulcers, and Abscesses.* By W. WATSON CHEYNE, M.B. Edin., F.R.S., F.R.C.S. Eng., Professor of Surgery in King's College and Surgeon to King's College Hospital and Paddington Green Children's Hospital, London. Second edition. 1897. Edinburgh and London: Young J. Pentland. Pp. xii. and 197. Price 3*s.* 6*d.*

WHEN reviewing the first edition of Mr. Watson Cheyne's little manual we praised it as being likely to serve as an admirable guide to the practical application of antiseptic methods. The author tells us in the preface to this, the second, edition that "continued experience shows that uniform results may be reckoned on if the methods here recommended are followed," and we fully agree that a surgeon who can count on obtaining healing by first intention by any method is fully justified in continuing to practise that method. The failures which often follow so-called "aseptic surgery" are not necessarily due to the method but to the want of care on the part of the person who applies it, and the aphorism which Mr. Cheyne has placed at the commencement of his book, "Suppuration occurring in a wound made by a surgeon through unbroken skin is due to some oversight on his part," is as applicable to "aseptic" as to "antiseptic" surgery.

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## LIBRARY TABLE.

*Transactions of the Pathological Society of London.* Vol. XLVIII. London: Smith, Elder, and Co. 1897.—No one who has the interests of British medicine at heart can be unmindful of the excellent work which is constantly being done in this and kindred societies. The present volume has, moreover, an especial claim to notice, for it marks the period of this society's jubilee, which was duly celebrated in October, 1896. The address of the President, Mr. Butlin, here reproduced, gives an interesting account of the origin of the society and of its progress and not obscurely hints that the tendency of the society will in the future be more and more towards experimental and chemical pathology rather than in the field of morbid anatomy in which its greatest achievements have hitherto been gained. Doubtless there is room for all aspects of pathology to be discussed at its meetings, provided always that the members bear in mind the fact that oral exposition of a subject need not of necessity embrace all the minuter details which will subsequently find a place on the printed pages. The volume also contains a list of the specimens of more or less historical interest which were gathered from museums to illustrate the society's work of fifty years. Of the communications during the session which are here printed and illustrated may be cited one on Actinomycosis of the Pleura by Dr. S. West, one on Multiple Cavities in Bronchopneumonia by Dr. H. Tooth, a communication on the Minute Anatomy of Intussusception by Mr. D'Arcy Power, a case of Acromegaly with Diabetes by Dr. N. Dalton, Non-calcifying Plastic Osteitis by Mr. Pitts and Mr. Shattock, on the Tabetic Foot by Mr. Targett, and on the Plurality of Ringworm Fungi by Dr. Colcott Fox. The volume is fully worthy to rank with its predecessors and affords evidence of the sustained interest taken in the work of the society.

*An Atlas of Histology for the Use of Students.* By ARTHUR CLARKSON, M.B., C.M. Edin. Bristol: John Wright and Co. 1898. Price 9*s.*—This little atlas is a separate issue of the 174 original coloured illustrations from the author's "Text-book of Histology," with just sufficient descriptive letter-press to make the drawings intelligible. The book is

well got up and the illustrations are clearly printed in colours. They are, of course, somewhat diagrammatic, but that is no drawback from the student's point of view. The modest price of the work should place it within everyone's reach and it will be of considerable assistance to beginners in histology. Although the figures are naturally less numerous than in the atlas by Klein and Noble Smith and are, perhaps, drawn with less finish, yet they compare not unfavourably with those of that expensive work. It is, perhaps, a pity that in the teaching of histology to medical students the tissues of the dog, the cat, and the rabbit, should so largely replace those of man. They can, of course, be more readily procured in a fresh condition, but in the case of most organs excellent human material can be got readily enough. Many a student is puzzled by the slight differences which exist between certain organs in animals and in man when he is first confronted with the latter in his more advanced studies. There are certain omissions in the present work to which attention may be drawn. The different varieties of leucocytes are now of such importance that they should certainly be figured in any modern atlas; no illustration is given of the mammary gland; and the enormous advances in nervous histology due to the methods of Golgi and others are altogether unrepresented. A few of the illustrations are not up to the standard of the rest—notably that of the human uterus—and in figure 97 the student would be led to believe that there were no glands in the rectum. The use of the term "squamous epithelium" for the lining cells of serous cavities and blood-vessels is also to be deprecated. Though we have mentioned these slight defects, yet the illustrations are, as a whole, so good and clear that we have no hesitation in recommending the atlas to students as an excellent and serviceable little work.

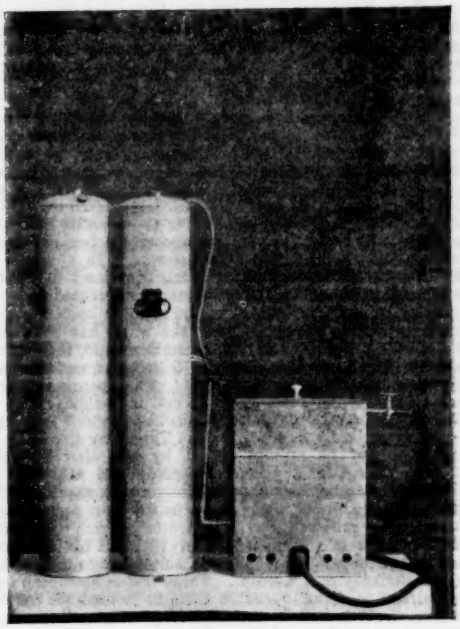
*Liverpool Royal Infirmary Medical Report.* Vol. II. 1897. Price 1*s.*—The second volume of the Liverpool Royal Infirmary Medical Report recently issued is larger than that of the previous year. The reports of the medical and surgical registrar have been extended by the addition of new sections upon the eye and x ray statistics, and by increasing the remarks upon the various surgical and medical cases wherever found necessary. There is an increase in the number of necropsies in the pathological report and in each case a brief *résumé* is given of the history and symptoms. Many rare specimens obtained from the post-mortem room have been added to the museum. The compilers have drawn up the statistical tables with every care and they hope that the present volume will prove of greater value both to the student of the infirmary and to those interested in the statistical work of a large hospital than the former volume. Much credit is due to Professor Boyce of University College, Liverpool, and to Dr. E. A. Smith and Dr. H. T. Nixon, the medical and surgical tutors respectively, for the care and labour which they have bestowed upon the present number.

*Skin Diseases of Children.* By GEORGE HENRY FOX, A.M., M.D., Clinical Professor of Diseases of the Skin, College of Physicians and Surgeons, New York, &c., With Twelve Photogravure and Chromographic Plates, and Sixty Illustrations in the Text. London: J. & A. Churchill. Pp. 166. 1898. Price 12*s.* 6*d.*—Although it can hardly be said that there are any diseases of the skin in children which are not represented in the adult, yet there are many morbid conditions of this structure which occur much more commonly in childhood. The vulnerability of the skin in infants, the frequent digestive disturbances in the young, and the very great chance of contagion are doubtless in great part responsible for the frequency with which diseases of the skin are met with in early life. During the year 1896 Dr. G. H. Fox contributed a series of illustrated articles on certain skin diseases which are apt to occur in infants and childhood to the *American Journal of Obstetrics and Diseases of Women and Children*, and he has now issued them in book form with some additions, but the book is not intended to include a full account of all the cutaneous affections which may occur in the young, rather it deals only with those symptoms which are commonly met with in children. Eighteen diseases in all are described, and most of them are very artistically illustrated by reproductions of photographs. The most elegant of the illustrations are the photogravures, which are equal to anything we have ever seen in a monochrome representation of a disease of the skin. There are two coloured plates, which are good. The illustrations in the text are also reproduced from photographs and are satisfactory.

# New Inventions.

## THERMO-SYPHON AND RAPID STERILISER.

DR. R. MARTIN GIL, Medical Director of the Hospital "Noble" of Malaga, recognising the increasing necessity of employing a scrupulous asepsis in surgery and at the same time the difficulty of obtaining sterilised water rapidly in sufficient quantity, has designed a simple apparatus for the purpose and of which he sends us the following description:—



Dr. Martin Gil's Syphon.

"This apparatus consists of a series of tubes of tin-coated copper with an inner diameter of 5 mm. and forming 52 elements arranged in alternating series like the boilers of Velbill. These tubes communicate with other transverse tubes of 7 mm. interior diameter, these latter being attached to a further set of four tubes with an inside diameter of 10 mm. These four just mentioned support the other two sets. This collection of tubes forms a *bloc* of 25 cm. in length, 18 cm. in breadth, and 19 cm. in

height. The aggregate total length of the tubes if placed one after the other would be 17 m. and they are capable of containing half a litre of water. To one of the vertical tubes at the angles another thin tube is screwed, which conducts the water to two cylinders of which I shall speak further on. The multitubular boiler is screwed on to the inside of a copper box, forming a vessel or receptacle. With an ordinary gas, petroleum, or spirit lamp the water is heated and penetrates into the elements of the boiler, and as the heat also acts directly on it the process of ebullition soon takes place. A wire basket serves to contain the instruments to be sterilised. It is 26 cm. long, 20 cm. wide, and 10 cm. deep, thus being of sufficient capacity to hold the instruments required for an ovariotomy or the largest Doyen's retractors required to be used for vaginal or combined hysterectomies. A lid is put on when the instruments are being sterilised. It should not be put on during the sterilisation of the water.

"The question of proper receptacles for keeping cold and boiled or sterilised water without fear of its becoming infected before the operation is a matter that must also be attended to. For this purpose I have designed two cylindrical containers of galvanised iron of certain construction. Each of these vessels is capable of containing 15 litres and measures 85 cm. in height and 15 cm. in diameter. The upper is furnished with two brass mouthpieces which can be screwed on, thus closing it hermetically. By means of the one in the centre, which is the larger of the two, the water is emptied out, and through the smaller one, which is on the side, is inserted the tube that conducts the boiling water and serves at the same time, if left open when the water is poured into the irrigators, to form a compact jet without spray.

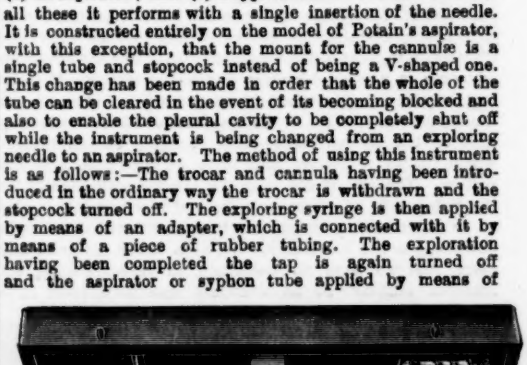
"Everything being ready the apparatus is started by admitting common water by means of a rubber tube connected with any water-tap or receptacle whatever and the upper vessel having been filled the valve communicating with the boiler is left open till this latter also becomes full and the lamp on the fireplace is then lighted. According as the water passes to one of the cylindrical vessels at the temperature of 135° C. under the pressure of a quarter of atmosphere developed by the steam generated in the boiler it becomes replaced by an equal quantity of water which enters hot from the upper vessel by means of a simple valve, ensuring the working of the thermo-syphon and precluding all danger from the steam. When the water begins to boil it takes 3 or 4 minutes to reach one of the cylinders, but according as the elements and the water of the upper vessel become heated the boiling of each half litre of water, which is the quantity contained in the tubular boiler, and its passage to the iron containers are effected in from 40 to 45 seconds. To sterilise the 30 litres of water capable of being contained in the two receptacles 30 or 40 minutes are required according to the pressure of the gas. We have already seen that the upper reservoir of the apparatus, after the water has been sterilised, serves to render the instruments aseptic, this process commencing 3 minutes after the 5 litres of water capable of being held in it begin to boil. The thermo-syphon is small in compass, being only 37 cm. in height, 29 cm. in front and 21 cm. from front to back. It weighs 7 kilos., and is therefore easily carried about. The water in one of the cylinders can be rapidly cooled by any simple method without being in any way infected, and that of the other one can be kept hot for mixing as required. The 30 litres capable of being held in the two are sufficient for all the requirements of a laparotomy, from the washing of the hands of the operator and those of his assistants, as also the preparation of aseptic solutions, to the washing of the peritoneum if needful. These vessels have been made cylindrical in form to enable them to be used for warming purposes. It is well known how frequently collapse supervenes in operations of the abdomen, and it is therefore always advisable to promote the warmth of patients who have been kept exposed to the air during the course of a lengthy operation while under the influence of an anæsthetic or who have had much hæmorrhage. In these and other cases the operator frequently freely employs a foot-warmer and for this purpose I have found nothing so handy as these vessels with two or three litres of water inside and placed wrapped in towels close to the patient.

"In military surgery, in the ambulances and field hospitals, as well as on board the battleships and transports for the conveyance of the wounded, it is well known that grave difficulties are met with in the practical application of a proper asepsis, and one of the greatest of these difficulties is that of not being always able to count upon a supply of sterilised water for the operations, the daily dressing of wounds, &c. This is from want of a rapid and easily-handled steriliser capable of affording the needed supply of water, with vessels to keep it aseptic for preparing the necessary solutions. With my thermo-syphon I think this obstacle can be surmounted even under the most unfavourable circumstances.

"In conclusion the thermo-syphon and the two cylinders are from their small bulk easily carried to the house of the patient, where all kinds of operations can be performed in complete accord with the canons of asepsis."

## A NEW ASPIRATING INSTRUMENT.

THIS instrument, which was made for me by Messrs. Arnold and Sons, London, is a modification of Potain's aspirator and Dr. Garratt's syphonage instruments for tapping the chest. Its parts form (1) an exploring needle; (2) an aspirator; and (3) a syphon tube. The functions of all these it performs with a single insertion of the needle. It is constructed entirely on the model of Potain's aspirator, with this exception, that the mount for the cannulæ is a single tube and stopcock instead of being a V-shaped one. This change has been made in order that the whole of the tube can be cleared in the event of its becoming blocked and also to enable the pleural cavity to be completely shut off while the instrument is being changed from an exploring needle to an aspirator. The method of using this instrument is as follows:—The trocar and cannula having been introduced in the ordinary way the trocar is withdrawn and the stopcock turned off. The exploring syringe is then applied by means of an adapter, which is connected with it by means of a piece of rubber tubing. The exploration having been completed the tap is again turned off and the aspirator or syphon tube applied by means of




another adapter; the adapters used are the same as in Potain's aspirator. A metal test tube is provided for boiling the metal parts and bulldog clamps are supplied for the syphon tube. I have now used this instrument a great number of times and have found it simpler and quicker than the ordinary aspirator. On most occasions I used the syphon tube, which I prefer to the aspirator because it is continuous in its action and the aspirating force is uniform. The air-pump and (cork for) aspirating bottle form part of this instrument because it is sometimes required for very small pleural effusions surrounded by a thickened pleura, but on account of the infrequency with which it is required I prefer to have it in a separate case.

L. B. BURNETT, M.R.C.S. Eng.
Royal South Hants Infirmary.

ROYAL UNITED HOSPITAL, BATH.—As the result of a ball which was recently held in aid of the Royal United Hospital, Bath, the sum of £200 has been raised for the building fund of that institution.

# THE LANCET.

*LONDON: SATURDAY, JUNE 11, 1898.*


THE General Medical Council rose at 7.30 P.M. on Tuesday, May 31st, having sat the whole of seven days and having dealt in a more or less thorough way—we fear we must say less rather than more—with a very large number of subjects. Upon the whole the new President has had a difficult experience. What was nominally the first meeting under his presidency began somewhat stormily and did not end much otherwise. The Council is full of his friends, who recognise his high authority, his unequalled experience of the Council's work, and his great business capacity. But even so he did not escape criticism and many thought that he might have prevented some of the personal episodes which disfigured the proceedings. The fact is that for the time being the air of the Council is heavily charged with personal electricity which breaks out in occasional storms. Let us hope that the storms will soon pass and leave the Council a better body for the discharge of its great duties. For better or for worse it includes in its membership a number of gentlemen of great ability but of incompatible temper, who no doubt all agree in wishing to make the Council efficient, but who continue to differ even on questions on which they are for all practical purposes agreed.

Amid the multifarious questions which occupied the attention of the Council we select one or two as important in themselves and also interesting as illustrations of the faulty way in which the Council too often does its work. Take, for example, the question of the use of unqualified assistants. The Council in November last carried a motion meant to increase the stringency of its rule on this subject. Roughly it conveyed the general impression that henceforth—without waiting till the year 1900—ny employment of an unqualified assistant in the seeing or treatment of patients might involve the peccant principal in a serious charge before the General Medical Council. We pointed out at the time that there was a want of definiteness in the language, leaving in the minds of many practitioners an uncertainty as to the exact meaning of the Council. This uncertainty has been felt extensively by those who have been in the habit of employing unqualified assistants under their own careful supervision and, as they thought, in accordance with the views of the General Medical Council. Amongst such practitioners a wide and extensive panic has undoubtedly been created. The discussion on Tuesday on Mr. TEALE'S motion, which aimed at a reconsideration of the subject, shows that this uncertainty was not confined to such practitioners, but that it was actually shared by members of the Council. Mr. BROWN said that he would regard attendance on midwifery or an emergency case of any kind as not inconsistent with the November notice. He was sharply corrected by Dr. DONALD MACALISTER, who, as framer of the notice and chairman of the Business Committee, as well as in virtue of a clear and logical mind, speaks with authority on the subject. But it is well known, that other and influential members of the Council share Mr. BROWN'S views and have given them categorical expression. The final result of the reopening of the matter is simply to leave things where they are and were. This means that this serious question is to be settled by cases and not by explicit instructions, that men employing unqualified assistants, no matter what the limitations, will be liable to answer for their conduct before the Council, and that no one can tell in any individual case whether the views of Mr. BROWN or of Dr. MACALISTER will prevail. This vagueness may be a master-stroke of policy in the view of certain minds, but it is not business and is a great practical cruelty to men wishing to do what is right under difficult and often hard conditions of practice.

We regret to say that the proceedings of the Council ended, as we have hinted, unfortunately. The resolution which was passed giving members power to see documents with the consent of the Council, or the Executive Committee, or the President, was not broad enough for Mr. HORSLEY (to whose letter in our columns last week we refer our readers), and although by silence he appeared to give consent to the resolution when it was under discussion, at the last moment of the Council's sitting he raised the whole question again on practically a formal motion. The President refused to allow the reopening of the subject. It would seem only fair before the rule by which the inspection of documents by members is condemned that it should be tested by experience. It is obvious that the documents of the Council must be safeguarded. Some of them affect the character of members of the profession against whom charges of misconduct may have been hastily and incorrectly made. All of them are of such a nature as to be valuable for use and reference and consequently their loss or damage could not be considered with equanimity. On the other hand, they can only be made useful by inspection and study, and we assume that in the future for any good purpose they will be available under reasonable conditions. Nothing could be more unfortunate than for the Council to offer an unmeaning opposition to such a use of its documents or an opposition which would convey the impression of fear lest its action or that of its legal advisers or officers would not bear investigation. It is understood to be the legal officers of the Council against whom Mr. HORSLEY'S shafts are most pointed, but it is a poor compliment to these old and well-tried servants to think that their work needs to be guarded from honest, even if somewhat severe, criticism. In this view it is much to be regretted that a committee was not appointed as the motion of Mr. HORSLEY and Dr. GLOVER suggested. An investigation by a committee is an entirely different thing from a personal inquiry and is much more likely to carry satisfaction.

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ALTHOUGH the profession has not yet got over a certain amount of dissatisfaction that the recent Crown vacancy in the General Medical Council was not filled by a

general practitioner, it is generally recognised that the dentists have been fortunate in the appointment of Mr. TOMES. The discussion on dental education gave the new representative a good opportunity of justifying the selection of the Crown. There are two extremes in the views on this subject which need reconciliation in the Council. According to one party, represented in the debate by Dr. MCVAIL with his unfailing fervour of expression, the time is fully come when the dentist ought to be a surgeon and ought to have as complete a knowledge of surgery as any medical practitioner. According to another view, represented perhaps by Sir RICHARD THORNE, we are making too much of dentists and training them beyond the necessity of the case, with the effect that they are apt to think themselves fully fledged medical practitioners and to poach on the field of the medical man. The truth doubtless lies midway between these extremes and the General Medical Council has made an honest attempt to suggest a curriculum and an examination which will tend at once to make the dentist efficient and yet help him to see that it is no part of his duty to invade the domain of the medical practitioner. There is the less excuse for any such invasion when we consider the fact that coincidently with the development of the dentist's art the public have developed a praiseworthy solicitude about their teeth.

The warmth of the discussion in the Council was not, it should be said, entirely due to divergence in the views of the members. The real inwardness of the debate could be guessed at by those who remember that the Council is a very complex body and represents schools in different portions of the kingdom whose methods of education differ, whose interests are not always identical, and who are not altogether free from the jealousy of rival and competitive bodies. Whether chemistry should include physics, whether instruction should take the form of lectures or laboratory work, whether a dentist should know more than the anatomy of the mouth and how much more, whether his teaching on disease should enable him to recognise any lesions in the mouth of more than local significance, were questions which seemed almost to raise the temperature of the members concerned in their debate. It must be admitted that Mr. TOMES exercised a moderating influence and did much to show that it was in the interest of the public that the dentist should be more than a mere extractor or stopper of teeth and that the degree of medical education required of him had the effect of restricting him within the sphere of his own specialty. Medical men generally will recognise the truth of this view. Undoubtedly the less educated a man is the more conceited he is apt to be and the more likely is he to assume status and duties beyond those for which he is licensed. A great part of the interest of this discussion and of the whole question of the evolution of dentistry lies in the fact that it involves the larger question of specialisation in what is essentially medical work. How far is this process to go? How far is it fair to the medical profession and in the interest of the public to divide the human body into petty areas to be cared for by th se alone who have devoted their attention exclusively to such limited areas, as if these localities were not parts of the whole, and as if their diseases could only be understood and treated in this isolated way? If such specialisation is demanded by the public, how far should it be recognised and encouraged by the medical profession? The answer of the profession doubtless would be that it has gone far enough and that any further extension of it should be resisted. The legalisation of the dentist has not yet sufficed to raise all men who enjoy registration above the methods of tradesmen. Many advertise and vaunt their skill in a way altogether foreign to the methods and the tradition of the medical profession. But it has doubtless tended to check that evil, and the effect of education, as Mr. TOMES argued, has been considerable. Still, we must resist, on the score of science and of public interest alike, any more registration of specialties. And here we join hands with Dr. MCVAIL and admit that the medical art, as far as education goes, is one and indivisible, and must know no limitation of parts and recognise no division of the body into bits.

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ON June 6th the trial of WALTER HORSFORD for the murder of his cousin ANNIE HOLMES, a widow, was concluded. After five days' investigation at the Huntingdon assizes before Mr. Justice HAWKINS the prisoner was convicted and sentenced to death. The facts of the case were briefly as follows. HORSFORD, who had recently married, had received an intimation from Mrs. HOLMES that she believed herself *enceinte* with the implication that he was the author of her trouble. In his reply he repudiated liability on the grounds that she had received monetary consideration and expressed a wish that no more letters should be sent to him, as he did not wish his wife to know of the relations which had existed between them. In December last HORSFORD purchased at a chemist's a large quantity of arsenic and 90 gr. of strychnine, alleging that he wanted them to exterminate vermin. One day early in January Mrs. HOLMES, who had been in her usual health, retired to bed taking with her a glass of water—an unusual circumstance. Shortly afterwards her daughter, aged about thirteen years, found her mother in great agony. The neighbours were called in and Dr. JOSEPH HERBERT ANDERSON, acting as assistant to a local practitioner, was fetched. He found deceased suffering from symptoms of strychnine poisoning and administered antidotal sedatives. Treatment proved of no avail and in a short time the unfortunate woman expired.

At the inquest HORSFORD in his evidence denied that he had had immoral relations with his cousin, or that he had visited her, or that he had sent anything to her. These statements were demonstrably contrary to fact, for he had been twice to see her and there was the letter above referred to. He was arrested on a charge of perjury and was subsequently indicted for wilful murder. After Mrs. HOLMES's death some letters were found beneath the mattress of the bed, together with two papers, one of which though nearly empty contained a little strychnine whilst the other held 35 grs. of the alkaloid. On one of the packets was written "one dose take as told," and also the significant expression "it is quite harmless." The analysis

of the viscera and their contents revealed the presence of a large quantity of strychnine. From the characteristic symptoms and the chemical analysis there could be no shadow of doubt that the deceased had died from strychnine poisoning. The questions to be determined were—Was the alkaloid taken by accident or was it administered with a felonious intent? and if the latter, who was the guilty person? Although strict inquiries were made none other than HORSFORD likely to be known to Mrs. HOLMES and to be interested in her affairs was found to have purchased strychnine from the chemists for some distance around. Fortunately there was no difficulty in comparing HORSFORD'S known handwriting with the direction on the packet containing the powder. The likeness between the two was so striking that it scarcely needed an expert to appreciate it. Now, whether HORSFORD caused to be administered the poison with the intent to procure abortion—a proposition purely visionary—or to compass death mattered not. The post-mortem examination showed that Mrs. HOLMES had not been pregnant within a short period of her death. But even this mistake as to her condition would not have diminished the criminal responsibility, since the Act in considering the penalties for the procuring of abortion distinctly says "whether the woman be pregnant or not." The chief contentions for the defence were (1) that some other person than HORSFORD might have been the guilty party; (2) that the strychnine found in the papers might have been put unde the bed subsequently to the death of Mrs. HOLMES; and (3) that it was not likely that HORSFORD, "who only valued Mrs. HOLMES'S body at half a crown"—a sum he acknowledged to have given her—would sacrifice her body and soul at the risk of losing his own life. As regards the first, it may be remarked that there was not the slightest testimony that any other person than HORSFORD had any reason for taking her life. The other points are too puerile to merit discussion.

Touching the adequacy of motive we submit that the history of murders committed of malice aforethought shows that from an ordinary standpoint the prime cause is seldom commensurate with the deed—in fact, it is more often than not so utterly disproportionate that some ethical writers have questioned whether the act is not the final result of a state of mind that is hovering on, or that has passed beyond, the frontier of sanity. And, again, there is the propensity to trust in the chances which may favour the failure of detection of the crime. Since the time of PALMER no case of murder by strychnine poisoning so foul in every sense of the word has been brought to light as that now under consideration. United to his victim by ties of blood, in debt to her morally for the wrong he had done to her, HORSFORD hesitated not to treacherously take the life of a lonely widow and make her innocent children orphans, and all for the miserable gain of freedom from the consequences of his lust. The links in the chain, or rather the strands in the rope, of evidence were so convincing, so natural in their connexion and cohesion that none but the wilfully blind could for a moment hesitate to endorse the verdict. The compliment and thanks rendered by the jury to the presiding judge might be deemed superfluous, but *facile princeps* as is Mr. JUSTICE HAWKINS in directing juries in criminal trials it seems to us that his latest exposition will be considered his masterpiece. Biassed undoubtedly he was, but in the justifiable sense to which the late Mr. JUSTICE MELLOR gave his judicial sanction when he said "if the evidence is strong the summing up should be strong." It would be wrong on the part of a judge simply to enumerate the facts which might be arrayed against a prisoner or presented in extenuation or disproof of his alleged guilt. His remarks should be directive and not merely descriptive. They should be of such nature and strength as will assist the jury in arriving at a just conclusion.

# Annotations.

"Ne quid nimis."

## THE EXPENDITURE OF THE METROPOLITAN ASYLUMS BOARD.

THE expenditure of the Metropolitan Asylums Board and the inattention of the public to it have long been the surprise of those who take any interest in such matters. Those who are keen to replace our voluntary hospital system by a State-supported one should immediately begin their study of the working of this Board. The technical nature of the questions in architecture involved and their remoteness from the burning contests of politics, and a vague impression that everybody is benefited all round by the hospitals, in part account for the general apathy with which their administration is regarded. It is at least satisfactory to see indications that the Local Government Board is uneasy on the subject and keeps up its demand for more specific information. At the meeting on Saturday last a letter from the Local Government Board was read stating that the report of the Special Committee on the Brook Hospital expenditure did not give specific replies to the letter of the Local Government Board of Oct. 22nd; that the special committee did not employ a competent surveyor as suggested by them and as ordered by the managers; and that they were still of opinion that such a course should be adopted. It is also satisfactory to find that some members of the Board are alive to the seriousness of the facts. Mr. F. Purchese is reported in the *Times* of the 6th inst. to have characterised the construction of the hospital as a gross scandal, the cost exceeding the architect's estimate by £70,000, about £38,000 being for work authorised by the architect without the consent of the committee or of the Board. He moved for a special inquiry by the Local Government Board. It was finally decided to forward the report of the Special Committee, and a letter answering the questions raised and promising help to the Local Government Board in any further inquiries. We hope the Government will spare time from its larger cares to pay some attention to this question and the various bearings of it. The whole subject of the administration of the hospitals and their effect on the limitation of disease is one of immense public importance.

## THE ADULTERATION OF DRUGS.

IN the matter of adulteration the subject of food is generally uppermost in the mind and of recent years the interest taken in suppressing fraud in this direction has been very keen, so as to have resulted at last in an organised movement urging upon the present Government the necessity of providing more effective measures. All this time the question of the sophistication of drugs is to a large extent likely to be lost sight of. Indeed, it has been proposed

to entitle the new Act simply the Adulteration Act, apparently without reference to drugs at all. The matter of keeping vigorously maintained a system of control in drugs is certainly next in importance to that of a similar control over food; it obviously directly concerns the public and, it need hardly be added, the medical adviser. Yet judging from the Government returns the ratio of drugs examined to food is most insignificant and not in accordance with public and professional requirements. In the last Local Government Board return (1896–1897) out of a total of 45,555 samples taken for analysis only 1380 specimens (about one-fortieth part of the total number) of drugs were taken, the extent of adulteration amounting to 11·3 per cent., against 9·2 per cent. in the case of food. It invariably happens when the authorities become active that offences are proved. Such was the case in Sunderland a few weeks ago, when several druggists were convicted for selling drugs of inferior quality. In Gregory's powder carbonate of magnesia had been used instead of oxide and in one case calcium carbonate. In another instance the powder consisted of two-thirds of sulphate of lime. Again, precipitated sulphur was shown to have contained a percentage of sulphate of lime, due probably to careless preparation; and, lastly, a druggist had supplied sublimated instead of precipitated sulphur. The proceedings in regard to drugs, unlike those in regard to the adulteration of food, are instituted upon a much more definite and satisfactory line, since, of course, the British Pharmacopœia lays down the kind and strength of the preparations sold. It is in a similar direction that new legislation is required in regard to food—that there may be definite standards fixed and more precise titular definitions of various articles of food. And in regard to drugs a greater proportion of samples than 3 per cent. should be taken under the provisions of the Food and Drugs Act by the authorities if a satisfactory standard of purity and quality is to be maintained.

## MEASURES FOR PROTECTING TURKEY AND EUROPE AGAINST PLAGUE.

DR. ZAVITZIANO, United States Sanitary Commissioner at Constantinople, reports to his Government that, in spite of the steps of the International Sanitary Commission, there are many questions which render such steps delusive. He instances the condition of the sanitary defence of Bassorah.

"I reported," he says, "the arrival on the 10th inst. of the Steamship *Patna* from Bombay with 125 passengers. During the journey from Bombay to Karachi bubonic plague made its appearance on board. It was a fireman who fell ill and was landed at Karachi. A second case occurred off Bushi and a third at Bassorah. I have already written in my previous reports how much Turkey is exposed to the invasion of epidemics through the Persian Gulf and that the different members of the International Sanitary Commission expressed on the contrary their opinion, which is quite different, and according to which no epidemic ever entered Turkey from that way."

It has been frequently stated that only the cholera epidemic in 1882 entered through Bassorah and probably that of 1888-9. *Ex post facto*, now that a case of bubonic plague exists already in the would-be lazaretto of Bassorah, it has been decided that any ship arriving at Bassorah and having on board cases of bubonic plague will be turned back after the mail has been landed. The foreign sanitary representatives, seeing that in spite of the orders given by the sanitary authority the danger of the spread of the epidemic is always imminent, have decided (1) to present to the ambassadors or ministers whom they represent at the International Sanitary Commission a memorial according to which diplomatic action would be taken in order to compel the Ottoman Government to respect and put into execution the decisions of the International Sanitary Commission without modifying them and adhere to the sanitary conferences of Paris and Venice; (2) to cause a meeting of a commission in order to decide how to put into execution the decisions of said sanitary conferences and decide upon the necessary steps to be taken for the protection of Turkey and Europe against the plague; and (3) at last to insist upon the adoption by the Ottoman Government of an efficient system of hygiene and sanitary improvements of all the cities of the empire. We fear that to compel the Turkish Government to do such things as are included in the third heading, which would involve an immense expenditure of money from Constantinople to the Persian Gulf, is rather a hopeless task.

## OBSTETRICAL SOCIETY OF LONDON: PRESIDENTIAL ADDRESS

WE have received the annual presidential address which was delivered before this society in February last and which has now been printed in separate form. As a rule the appreciation of these addresses is largely restricted to those who happen to be present on the particular evening when they are delivered, for the volume of the society's Transactions in which the address appears does not generally come out till about a year afterwards, by which time much of the interest, which is necessarily partly of an ephemeral character, has evaporated. This is certainly to be regretted when, as in the present instance, so much care has been taken in the preparation of the address. It contains especially a statement of the present condition of the society, which we are glad to see is one of vigorous activity and prosperity; a review of the work done in the past session; and an account of the life and labours of those Fellows of the society who have been removed by death during the year. We observe that the alterations made in the form of the certificate granted to midwives after examination by the society has not had the effect of diminishing the number of candidates, but that, so far from this being the case, the number is increasing. Dr. Cullingworth defines the position of the society in this matter as follows. He says: "It must be clearly understood that the society undertook the work merely as a temporary expedient and from a sense of public duty after having tried in vain to induce the Government to move in the matter, and that it will only be too glad to relinquish it whenever the State can be prevailed upon to take upon itself functions that properly belong to it and that it alone can adequately fulfil." It is interesting to observe that the papers read at the society's meetings last session were equally divided between midwifery and gynæcology—subjects naturally allied, which cannot without disadvantage be studied, or indeed practised, separately. To our thinking, it is the biographical portion of the address which especially taxes the industry and, we may add, the tact of the writer; he has to deal with the history of the lives of men who have been for the most part his contemporaries, who have been engaged in the same kind of work as himself, who have necessarily sometimes thought as he does and at other times perhaps held opinions largely at variance with his own. Dr. Cullingworth had to deal with four names of the first importance—viz., Sir Spencer Wells, Dr. Lusk, Dr. Braxton Hicks, and Professor Tarnier. We think his somewhat delicate task in writing a biographical sketch of each of these eminent men has been admirably performed. Dr. Cullingworth has not restricted himself to merely describing the comparatively uninteresting facts of birthplace, parentage, and the like in each case, but has given some account of the principal work done by each of them. Probably the sketch of the life of Professor Tarnier is the one which contains most that is not generally familiar. The work he did in adopting measures at the

Paris Maternité to reduce the mortality from puerperal fever—"in slaying the dragon of puerperal infection," to use Dr. Cullingworth's expression—calls for especial remembrance. The invention of the axis-traction forceps which, as is well known, was due to Professor Tarnier, constitutes, in Dr. Cullingworth's opinion, "the most important improvement that has been made in the construction of the instrument since the introduction of the pelvic curve." Altogether we may congratulate Dr. Cullingworth on having produced an interesting and instructive address.

## HYGIENE IN INDIA.

IF any apology were needed for publishing an introductory treatise on Indian hygiene the lessons of the plague would amply suffice. The lamentable want of sanitary knowledge among the natives of India has been the cause of much sickness and suffering and any attempt to supply that lack of knowledge should be cordially welcomed. A little book has just been published by Surgeon-Captain Buchanan for medical subordinates in India[1], but there are others to whom the book would be useful and if it has a wider circulation than the author intends much good will be done. An Indian gaol, it would seem, according to the author, is the only place in India where a sanitarian has a free hand and where he can readily act up to his theories. From this *obiter dictum* some novelties in the book might be expected, but the author has not travelled very far from beaten paths, except in regard to certain special details which apply solely to a country like India. The book, however, does not pretend to be a classical treatise on hygiene and, as far as it goes, is really an admirable little work. The term "medical subordinate," according to the Indian jail code, means an assistant surgeon, an apothecary, or a civil hospital assistant, but it is not to be supposed that any one of these has undergone the training of a fully qualified medical man. Nevertheless they often have to undertake duties appertaining to the fully qualified practitioner, and any endeavour to make the subordinate less a machine in the more responsible departments of his work deserves great praise. After reading Surgeon-Captain Buchanan's little manual the subordinate should not only be able to carry out the orders of the medical officer more intelligently but to know why those orders are given.

## DIFFUSE LIPOMATA.

THIS disease is characterised by the symmetrical formation of diffuse fatty tumours in the neck and much less frequently in other regions, such as the front of the abdomen, the back, the mammary region, the groins, the suprapubic region, the buttocks, and the extremities. In the neck the growths may become so large as to produce considerable deformity. The disease was first described by Brodie in 1846 and only a limited number of cases have been recorded since that time. In a communication recently made to the Société Médicale des Hôpitaux M. Launois and M. Bensaude stated that they were able to collect only 65. The term "lipoma" seems to be a misnomer, as Mr. Roger Williams has insisted on; the growths are local hypertrophies of the subcutaneous adipose tissue and may be regarded as a form of obesity. But the lymphatic system appears to be in some way specially concerned in their production. In an important paper published in the sixth-ninth volume of the Transactions of the Royal Medical and Chirurgical Society by the late Mr. Morrant Baker and Mr. A. Bowlby the writers remark that the fatty masses are prone to develop in regions occupied by lymphatic glands—viz., in the neck, in front of the pinna, and in the inguinal region, but they could not say for certain whether the glands were involved. M. Launois and M. Bensaude have brought forward further evidence in favour of the view suggested by Professor Hayem, that the affection has its origin in disease of the lymphatic glands. To the objection that the growths form sometimes in regions where no lymphatic glands are supposed to exist they reply that glands have been described in such regions—for example, in the external aspect of the deltoid, on the internal surface of the forearm, on the thorax, and on the abdominal wall—by Sappey and Cloquet, and recent researches show (see the thesis of Petit) how numerous are the groups not described by the authorities. A more important argument than the situation is the presence in the growths of glands more or less voluminous. Again, lymphangitis and splenic enlargement have been found and also alterations in the number of leucocytes in the blood. Virchow has already stated that the lymphatic glands may be the starting-point of lipomatous formations. Analogous to the disease according to this view is the perirenal accumulation of fat which may occur with renal disease. But in speculating on the nature of the disease the writers, strange to say, do not refer to its etiology. In England the disease has been observed almost without exception in persons addicted to alcohol; and general obesity is a well-known effect of the same cause. Possibly the reason is that alcohol does not, or has not been observed to, play the same part in the French cases, for the habit is not mentioned in the very complete analytical table which accompanies the paper, whilst it is frequently referred to in the English cases.

## THE CLINICAL SOCIETY'S COMMITTEE ON ANTITOXIN IN DIPHTHERIA.

IN its main results the investigation into the use of antitoxin in diphtheria undertaken by a committee of the Clinical Society of London harmonises with the experiences which have from time to time been published in different quarters. The summary report read by Dr. Church at the last meeting of the society does not enter into details, but gives in general terms conclusions which are eminently favourable to the value of the treatment. The committee would appear to have taken great pains to avoid fallacies and to have made a rigid selection of the reports furnished to them from various hospitals in order that erroneous inferences might be avoided. By comparison of the series of cases treated with antitoxin with another series not so treated it would seem that the use of the serum was marked by a reduction in the fatality of diphtheria from 29 6 per cent. to 19 5, a reduction most marked in patients under the age of five years. But perhaps the most striking evidence of the efficacy of antitoxin, particularly when it is early administered and in adequate amount, is to be found in the results of tracheotomy. It would seem that since its employment there has been a diminution of cases requiring tracheotomy and, what is more obvious, a very marked lessening of the mortality amongst those subjected to this operation. A fall in fatality-rate from 71 6 per cent. to 36 0 per cent. speaks volumes and by itself must carry conviction as to the powerful action exerted by antitoxin upon the local process. The committee inquired into the relative results accruing from variations in the period of the disease at which the injections were made, and also the comparative effects of different amounts injected at once but we must wait for the full text of the report before being able to give their experience in these particulars. It was stated, however, that no connexion could be discovered between the amount of antitoxin injected and the subsequent occurrence of paralysis. It is instructive to

[1] A Manual of Jail Hygiene for the Use of Medical Subordinates. By Surgeon Captain W. J. Buchanan, I.M.S. Calcutta: Benga Secretariat Press. 1898. Price Rs. 3.

learn that in very nearly one-third of the cases some form of rash, mostly erythematous, occasionally urticarial, supervened at periods varying in the majority of from six to twelve days after the injection. These rashes were accompanied by rise in temperature in about one-half of the cases and in a certain number by joint-pains. As regards suppression of urine no difference was observed in the liability to this grave event amongst those treated and those not treated by antitoxin. The general result of the inquiry is succinctly yet sufficiently stated to have been "that in the cases treated with antitoxin not only is the mortality notably lessened, but the duration of life in fatal cases is also prolonged," and it is added: "The injection of antitoxin may produce rashes, joint-pains and fever; with these exceptions no prejudical action has been observed in the series of cases investigated to follow even in cases in which a very large amount of antitoxic serum has been used." This deliverance, modest though it be, made after most careful scrutiny of clinical facts, should go far to establish the routine employment of antitoxin and encourage the hope that as time goes on its efficacy may, by improved methods, be even more strikingly exhibited. The thanks of the profession are due to the committee and especially to its chairman, Dr. W. S. Church, and its secretary, Dr. W. Pasteur, for the manner in which their important task has been accomplished and the clearness with which its conclusions are stated.

## THE GLYCERINATED CALF LYMPH ESTABLISHMENT.

As the result of inquiries which we have instituted as to the progress made by the Medical Department of the Local Government Board in the matter of a supply of glycerinated calf lymph we find that no definite decision can be come to as to the date when this lymph will be issued until after the passing of the Vaccination Bill. In the meantime the laboratories taken over by the Government at the premises of the British Institute of Preventive Medicine are being rapidly fitted with all the necessary appliances, and it is expected that work will commence there in about a fortnight, under the direction of Dr. F. Blaxall of the Westminster Hospital School of Medicine, who has been appointed bacteriologist in connexion with the new laboratories. It is also stated that special arrangements have been made as to stabling for the calves which will be used and for the regular transmission of the lymph in bulk to the laboratories. It is also a matter of satisfaction to be able to record that on putting to the test, by the primary vaccination of a large number of infants, some samples of glycerinated calf lymph which had been prepared by Dr. Copeman and Dr. Blaxall and had subsequently been kept in stock for no less than nine months every single insertion resulted in typical vaccine vesicles.

## ULCERS ON THE CONJUNCTIVÆ IN SECONDARY SYPHILIS.

As the virus is diffused through the whole system in secondary syphilis, theoretically a lesion might occur in any position; but as a fact, on those parts exposed to observation—the skin and certain mucous membranes—the lesions show a preference for some positions and occur but seldom on others. This difference, like all others of the kind which are found when the whole system is exposed to a virus or poison, depends no doubt on structural or functional differences of various parts. The secondary eruption of syphilis scarcely ever affects the conjunctivæ and we know of no instance in which ulcers like those described in the following case have been observed, but that they were true secondary lesions admits, we think, of no doubt. The case is described in the *International Medical Magazine of Philadelphia*, April, 1898, by Dr. C. A. Veasey, and is accompanied by an engraving. A man, aged twenty-eight years, acquired syphilis. In the seventh month he came under treatment with a papular eruption and mucous patches in the mouth. Each upper eyelid was markedly swollen and red and there was a thin muco-purulent discharge. On eversion there were found symmetrically situated on the external halves of the palpebral conjunctivæ two extensive, irregularly outlined phagedænic ulcers, with undermined edges and covered with greyish yellow sloughs. Protiodide of mercury was given and the ulcers were cleansed with a solution of formaldehyde and occasionally stimulated with nitrate of silver. At the end of two months they had entirely healed, leaving slight scars, and the skin eruption and mucous patches had disappeared. The symmetry of the ulcers, the associated lesions, and the result of treatment completely establish the diagnosis in this case. They may be very well compared with the analogous symmetrical ulceration of the tonsils which is so usually found in secondary syphilis.

## BRITISH MEDICAL ASSOCIATION.

ON Tuesday evening last the President and Council of the Metropolitan Counties Branch of the Association gave a conversazione which by permission of the President and Council of the Royal College of Surgeons of England was held in the Museum and House of the College, Lincoln's Inn-fields. A very large gathering, including many ladies, assembled, the guests being received by Mr. Frederick Wallace and Dr. Robert Farquharson, M.P., respectively President and President-elect of the branch, in the Museum of the College. During the course of the evening the excellent band of the Royal Artillery played a selection of music in the Museum; the Folk-Song Quartet performed Folk and other music, received with much applause, in the Lecture Theatre; and Mr. Walter Churcher gave some humorous sketches which, to judge from the crowded state of the theatre, were greatly appreciated. Many well-known and distinguished members of the profession and guests were present, and the Metropolitan Counties Branch of the British Medical Association may be congratulated on the complete success of their pleasant entertainment.

## PREVENTIVE HYGIENE IN FRANCE.

THE statement that in our own insulated country the opponents of sanitary notions are not as rare as Juvenal's black swans will probably not be gainsaid; but in the case of enlightened France, the land of Pasteur and progress, it is truly remarkable to find a man of education publicly disavowing all belief in the benefits of protective hygiene. When the Budget of the Agricultural Department was recently under consideration in the Chamber of Deputies the section devoted to epizootic diseases was discussed at great length, prominent among the speakers being M. Denis, member for the Landes, who demanded a supplementary credit of two millions (francs) in order to indemnify the owners of animals slaughtered *under the pretext* that they were tuberculous. According to M. Denis veterinary surgeons are inclined to see tuberculosis everywhere; but he confessed that the zeal of these honourable practitioners filled him with the gravest anxiety. "Doubtless," continued the honourable member, "statistics will be invoked to support them, but we protest against men of science who under the pretence of saving our lives render that life intolerable. I am aware that I am tilting against theories that are generally admitted; but in these latter days, as it seems to me, veterinary surgeons as well as medical men have become far too scientific. I should like to see the return of those good old times when, instead of

inventing diseases with jaw-breaking and barbarous names, doctors used simply to give their patients purgatives and gummy syrups. A great many highly scientific things have been said of *tuberculine* [*sic*]. Before this discovery our flocks and herds used to wander none the less joyously and actively o'er hill and vale, and I do not believe that tuberculosis ever caused the slightest uneasiness to our forefathers." "After an exhibition such as this," says a medical critic, "can anybody be surprised when deputies and even ministers call in quacks to treat themselves and their families? Poor humanity! Verily the opponents of progress are not always to be sought for in the ranks of ignorance." It is, of course, true that the apostles of sanitation have ever encountered depreciators. Just as Pasteur had his Pouchet, so Goiffon had his Pestalozzi, the amazing author of a scientific dissertation on Jonah in the whale's belly, who nevertheless wrote as follows to the Lyons physician: "You have gone quite far enough, sir; you have gone too far. Let us abstain from creating in our brilliant imaginations troops of flying insects which multiply themselves *ad infinitum*, whereof the generations never cease, which swarm in the air, in merchandise, even in the bodies of living creatures!" Goiffon's theory was correct, but as yet the world was not ready for it. In this connexion, however, it may be as well to recall the fact that the enemies of hygiene have not always been confined to the laity. The foolish utterances of Pestalozzi were well-nigh universally applauded by the various medical authorities of the day.

## ADMISSION TO ISOLATION HOSPITALS.

A SOMEWHAT instructive discussion has taken place in the Urban District Council, Redditch, in reference to the mode of admitting patients into a temporary infectious hospital which a joint isolation hospital committee has determined to open. The question turned upon the right authority to decide on the admission of infectious cases. In such cases there are two questions to be decided. First, the diagnosis of the disease. This is obviously a question to be decided by the medical man in attendance on the case. With him rests the responsibility of notification which follows on diagnosis. The medical officer of health may be also the medical adviser of the patient. But in any case the act of diagnosis and the responsibility of notification rest with the medical attendant. In model districts there is such a friendly understanding between the medical profession and the medical officer of health that in any difficulty the medical officer is willing to help with his advice. But there is a second question not so easy as the first, how and by whom are patients to be admitted? This is a legal and social question. In some places they are admitted indiscriminately, the sole qualifications being that they are ratepayers or the children of ratepayers and are the subjects of notifiable infectious disease. But the Legislature, we think, originally in such legislation contemplated a certain preference of cases. It gave powers to the Local Government Board in regard to the Metropolitan Asylums Board Hospitals to make regulations on the subject, which it has been very slow, we admit, to make. According to the high view of some medical officers of health isolation is impossible in ordinary houses. But even in ordinary houses there is a difference. Some are more crowded, some more clean and well cared for, than others. There is a wonderful power in some families of carrying out the instructions of a medical man and managing and curtailing even infectious disease. Some families need isolation much, some scarcely at all. Some are numerous, others not so. We do not approve the notion that all have an equal claim on an infectious hospital supported by rates. It is erected for the public safety and those have a claim to it who cannot isolate at home. Where there is any difference in need the best persons to judge are the medical officer of health and his staff, who are in touch with the medical attendant.

## MEETING OF FELLOWS OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

IT will be remembered that in consequence of the absence of a quorum at the January meeting of Fellows the Council decided in future to call only one meeting of the Fellows, in each year. It is therefore important that any Fellow, who has a matter to bring before the meeting of Fellows, should give notice of it to the Secretary of the College on or before Thursday, June 16th, otherwise it cannot be discussed until July, 1899. The meeting itself will be held on Thursday, July 7th, 1898, at 5 P.M., after the election of three members of the Council.

## THE EPIDEMIOLOGICAL SOCIETY.

AT the annual meeting of this society, which was held recently at 11, Chandos-street, Cavendish-square, Professor Lane Notter, who has occupied the Presidential chair with so much credit to the society for the last two years, retired from office and was unanimously elected one of the Vice-Presidents. It is customary in this society to appoint in turn as President representatives from the several branches of medical and sanitary sciences, and it was decided in keeping with this rule and having regard to the fact that NO representative of the central health authority had occupied the chair since Sir Richard Thorne that an effort should be made to obtain the services of Dr. Franklin Parsons of the Medical Department of the Local Government Board. This choice is, it appears to us, a very happy one, as Dr. Parsons is possessed of such encyclopædic knowledge in matters scientific that his assistance at the debates of the society cannot fail to be of very great value and we shall look forward with interest to his presidential address. We note, too, that at the same meeting it was resolved to confer upon Sir William Jenner the honorary membership of the society, the highest honour which the society has in its power to bestow. Sir William Jenner's historical researches in connexion with the differentiation of the continued fevers as well as in numerous other directions render him especially entitled to such honorary membership. It was arranged to hold the annual dinner of the society at the Grand Hotel, Trafalgar-square, on June 24th, and we hear that Sir Douglas Galton, Sir Walter Foster, the Director-General of the Army Medical Department, Dr. Klein, and many others are to be present.

## URTICARIA OF MUCOUS MEMBRANES.

THE eruption of urticaria does not affect the skin only, but may extend to the mucous membranes. On some patients it can be observed; on others its existence is to be inferred from the symptoms. Affection of the stomach usually shows itself by vomiting, but in a few rare instances hæmatemesis has occurred. In the *British Journal of Dermatology*, May, 1898, Dr. T. H. Chittenden has published the following case. An unmarried woman, aged thirty-eight years, became subject to attacks of urticaria. They increased in severity; the tongue and lips became very swollen, there was sore-throat with dysphagia and dyspnœa lasting three or four hours, and the mucous membrane of the nose was much swollen and congested. These attacks usually lasted about a week. Later they were accompanied by nausea and by vomiting of large quantities of blood which was followed by relief and the disappearance of the rash. There appeared to be some relation between the catamenia and the hæmatemesis; the latter came on about the first day of the former. Menstruation for the most part was

regular but very profuse. No cause for the disease could be traced; there was no family history of gout, asthma, or hæmophilia, and the strictest rules of diet had no effect. In the Transactions of the Clinical Society of London, 1885, Dr. Pringle recorded an exactly similar case in a man; he concluded that the hæmatemesis was the result of capillary hæmorrhage from an urticarial gastric mucous membrane. In urticaria of the skin analogous hæmorrhage may take place into the wheals (urticaria hæmorrhagica). The mucous membrane of the bronchi may be affected and a typical attack of asthma may accompany the skin disease. Of this a marked example was published in THE LANCET of May 22nd, 1886, by Mr. T. Davies Pryce. Indeed, apart from such cases of concurrence, urticaria and asthma show many analogies. Idiosyncrasy plays the same prominent part in their causation. These facts lend support to the theory of the late Sir Andrew Clark that asthma is a neuro-vascular affection of the bronchial mucous membrane.

## LEAD POISONING IN THE POTTERIES.

A TIMELY contribution on this subject has reached us in the form of a paper-covered book of some fifty pages by Dr. Prendergast, who has worked professionally in the Potteries for fifteen years. The perusal of this interesting addition to the literature of the subject convinces us that our attitude in regard to the question is correct. In THE LANCET of May 14th, 1898, we pointed out that the conditions under which the operatives in potteries worked and the effects of the operations concerned had been gone into thoroughly by a competent committee the members of which were appointed by Mr. Asquith in 1893. We are quite at a loss to understand why it is now proposed to appoint experts again to go over precisely the same ground. The nature of the danger is fully understood and the means of prevention are known with certainty, the suggested remedies being, we venture to think, practicable and interfering little with the technical achievements of the potter's art at the present time. Manufacturers have pronounced the possibility and practicability of using harmless glazes which contain lead, but in an innocuous or practically soluble condition. We allude to "fritted" lead—that is, lead fused with borax or silica. Dr. Prendergast also refers to the results of this inquiry and his contention is "that it is not necessary to exclude lead altogether from the ceramic industry, but that a small quantity of this material is essential to the manufacture of pottery; and finally that it will in a boracic frit resist decomposition when brought into contact with a weak hydrochloric or other acid found in the human system." We earnestly commend the following suggestion to the Home Secretary. Let the pottery manufacturers be compelled to take one of two courses insisted upon by the laws of the country. Why not compel them to mete out compensation for injury under the Workmen's Compensation Act, which will come into force next July, or allow them exemption from the Act *provided that they employ only "fritted" glazes?*

## THE WEST LONDON HOSPITAL DINNER.

THE first dinner of past and present staff, residents, and post-graduates of this hospital was held at the Trocadero Restaurant on May 31st, when over 90 were present. Mr. Alfred Cooper was in the chair and in proposing the toast of "The West London Hospital" described the work which had been done there with reference to teaching. The post-graduate course, which had been established five years ago, was now developing into a post-graduate school and over 80 gentlemen from all parts of the world had attended the hospital practice as post-graduates. He also referred the improved school accommodation which was shortly to be provided for post-graduates. He announced the establishment of a pathological laboratory, not only for specimens from the hospital, but to which practitioners in West London could send specimens for examination and report. He next referred to the origin of the West London Medico-Chirurgical Society, which held its meetings at the hospital, and mentioned the great success which this society had achieved; it now had 500 members and a journal of its own. Finally he referred to the Masonic lodge, the Cavendish, which had been founded in connexion with the hospital and with the society. Dr. Thorowgood briefly replied for the hospital. "The Health of the Past Residents and Post-graduates" was proposed by Mr. Keetley, who mentioned that the past residents had given two beds to the new wards which were now being furnished. Dr. Schacht replied for the past residents and Dr. Darley Hart of South Africa replied for the post-graduates, pointing out the necessity of having a hospital for post-graduates where no students were admitted and speaking in high terms of the post-graduate teaching. "The Visitors" was proposed by Mr. Swinford Edwards and responded to by Dr. Campbell Pope. Mr. Butlin, a former surgeon of the hospital, proposed the health of the Chairman, who in his reply gave the toast of "The Honorary Secretary of the Dinner" (Mr. L. A. Bidwell, who was also the dean of the post-graduate school). Mr. Bidwell in his reply said that the committee were extremely gratified with the result of the dinner and stated that they hoped to hold another dinner next year. For the benefit of those who were unable to be present he had arranged that a full account should appear in the *West London Medical Journal*.

## KRYPTON.

AN additional discovery in regard to the composition of the air has been made in a London laboratory, but for a reason which does not appear the announcement was made in Paris by M. Berthelot on June 6th before the Academy of Sciences. It was communicated in a letter from Professor Ramsay of University College. It is interesting to wonder whether such a course was dictated by personal or political motives, but surely the investigations of pure science should be beyond such influences. Still, the departure not unreasonably suggests something of the kind. It is well known that Professor Ramsay has expressed doubt as to the achievements of Professor Dewar in connexion with the liquefying of hydrogen being the first of the kind, and before the Royal Society when Professor Dewar announced the liquefaction of hydrogen in practical quantity Professor Ramsay said that Professor Olszewski of Cracow had done the same thing some years ago. There appears, however, strong reason for doubting whether Professor Olszewski succeeded in doing anything like that which Professor Dewar has accomplished lately at the Royal Institution, and we learn that Professor Ramsay has now admitted as much. Professor Dewar has produced liquid hydrogen in sufficient quantity to enable certain constants to be made and one of the important conclusions he has recently arrived at is that the reaching of absolute zero is practically a physical impossibility, since even when employing liquid hydrogen for the purpose the lowest possible temperature attained is 20 or 30 degrees higher. Professor Dewar was the first to show the method of preparing and preserving liquid air in large quantities, and to this achievement Professor Ramsay most probably owes his quite recent discovery of yet another constituent of the air. That being so, the present should serve as an excellent opportunity for sinking all questions of priority. We would refer all scientific controversialists to the excellent words contained in a lecture by Dr. W. J. Smith Jerome published in our issue to-day. He

says, alluding to the paradise of toil, that there may enter into it "one insidious sin—the lust of what is called priority. ..... This must be fought against and overcome or else, like a gathering cloud, it will, if left unchecked, roll onwards and darken all. And why should it not be fought against and overcome? Each fact discovered in the pursuit of knowledge, discovered it matters not by whom or when, and even when unimportant in itself may prove a stepping stone by which that knowledge mounts to other and far higher things. This is the worker's real recompense; it is this pregnant possibility which makes work, honest work, like virtue, its own great reward." The newly-discovered gas Professor Ramsay proposes to call "krypton," from the fact that it has been concealed from observation until now. It occurs with the argon after separation from oxygen and nitrogen of the air by now well-known methods. How krypton is separable from argon is not yet announced. Krypton belongs to the helion group, its density is somewhat greater than that of oxygen and it appears to be simple in constitution and mon-atomic. It gives a characteristic green line in the spectrum. This discovery may be of marked importance in clearing up the apparently anomalous behaviour of argon and helion and the difficulty of finding a place for them in Mendeléeff's wonderful classification of the elements.

## PLAGUE IN HONG-KONG: THE DEATHS OF TWO NURSING SISTERS.

THE deaths of two nursing sisters in Hong-Kong from plague contracted in the course of their hospital work are very sad events in themselves and are rendered additionally painful by the shortness of the interval between them. The first of these victims to duty was Miss Elizabeth Frances Higgin (Sister Frances). One of the plague patients in his delirium coughed in her face on April 20th, she became ill on April 25th, and it was soon found that she was suffering from pneumonic plague, the worst form of the disease. In spite of devoted care and attention on the part of the sisters and the principal medical officer she succumbed early on the morning of April 29th and was laid to rest in the Happy Valley Cemetery in a spot chosen by herself some months ago, the funeral being attended by a large concourse of friends and mourners of every grade of society. Sister Frances was a native of Carrick-on-Fergus and received her training at Guy's Hospital. Miss Emma Gertrude Ireland (Sister Gertrude), one of those who attended Sister Frances in her illness, complained of feeling unwell on the evening of May 2nd and was admitted to hospital early next morning, when the typical bacilli were found in her sputum. She died on May 5th and was buried the same day next to Sister Frances. Sister Gertrude was the daughter of Mr. Ireland of Salle Repham, Norfolk, and was trained at the London Hospital, where she held the posts of "night sister" and "Sister Blizard." Both of the late sisters went to Hong-Kong in 1890 and served all through the plague epidemic of 1894. Miss Macintosh (Sister Catherine) became ill on the same day as that on which Sister Gertrude was attacked and was found to have plague bacilli in her sputum, but the most recent information as to her condition is favourable. She suffered from plague in 1896 and was saved as if by a miracle.

## THE NATIONAL SOCIETY FOR THE PREVENTION OF CRUELTY TO CHILDREN.

H.R.H. THE PRINCE OF WALES presided over the annual dinner of the supporters of the National Society for the Prevention of Cruelty to Children on June 8th and was able to repeat in an excellent little speech the satisfactory information conveyed by the report for the past year. The society has every reason to feel satisfied with its position. A doubt as to the wisdom of the methods employed by the society which had been suggested by certain members was, it will be remembered, effectually settled in the society's favour by Lord Herschell's Commission. This year's report affords unimpeachable evidence that the society enjoys the confidence of the public. The annual subscription list has so far recovered from the temporary check which it had sustained that it shows a total income of £27,560, as against £28,980 for 1896–97, and this, moreover, in spite of the expensive diversion caused by the Diamond Jubilee. There are certain points of interest in the report which ought not to be overlooked. One relates to the fact that the public already show a greater readiness in giving evidence where it is found necessary to prosecute in cases of cruelty. Another and most important feature in connexion with the society's work is its beneficial influence over many of the defaulting parents themselves. Cases have repeatedly been reported in which a parent actually imprisoned for cruelty has thus been enabled to learn the lesson of self-restraint and has returned home a welcome inmate because altered in conduct and character. It must, of course, happen sometimes that the interference of the society is resented. In this connexion it is only fair to recognise the fact that every means is used to avoid all practice which savours of officious meddling and to have recourse to a court of law only in the last extremity. Mr. Justice Hawkins recently had occasion, in an action for libel brought against the society, to commend an inquiry conducted by its managing director as "the humane, right, proper, most feeling, and most prudent course to adopt." At the same time he warmly commended the society's work and the manner in which it was carried on. Lord Herschell has expressed a similar opinion with equal confidence. It was announced at the close of the dinner that over £5000 had been subscribed, a donation of 100 guineas having been made by the Prince of Wales.

## THE CONVERSAZIONE OF THE ROYAL SOCIETY.

THE rooms of the Royal Society at Burlington House are no longer equal to the demands of the interesting yearly exhibition of the results of scientific work. This is especially felt on the occasion of the second conversazione to which ladies are admitted. On Wednesday evening last it was difficult to move comfortably and get anything more than a cursory view of the experiments shown. Still more difficult was it to get a satisfactory explanation of the phenomena concerned. We should like to suggest that the exhibition should be continued for at least another evening. Quite nine-tenths of the exhibits shown at the previous conversazione, which were described in some detail in THE LANCET of May 14th, were shown again. We noticed, however, the following interesting additions. Professor Ramsay occupied a darkened corner with blackened apparatus in which it was evident something mysterious was going on. It was a demonstration of the spectrum of krypton, the properties of which are described in another column. Not far off was a new form of induction-coil devised by M. Wydts and M. Rochefort of Paris and shown by Messrs. W. Watson and Sons. The length of the spark was 8 in., although the secondary wire weighs less than 2 lb., the insulation being effected by means of a thickened oil. The Linden wave-motor boat in action attracted very general interest. In this device the propelling power of waves alone is utilised, the mechanism consisting simply of two elastic horizontal fins directed backwards and suspended below water line at both ends of the boat. An escape from the enemy, supposing this was its only means of propulsion, may be made by means of this boat by destroying the waves in its rear by allowing a stream of oil to escape. By the utilisation of wave motion alone the boats will attain a velocity of five kilometres an hour against both wind and

waves. The invention had its origin in observing the action of dolphins in swimming. Another striking [demonstation was the new automatic telephone exchange system which dispenses with the employment of operatives at the exchange to connect the wires from the transmitter to the receiver. In a word, by this most ingenious apparatus it is possible to "switch on" the person with whom communication is desired without ringing up the exchange. Needless to add there was a very large and distinguished company present, the exhibits in general being, in regard to number, variety, and interest, distinctly in advance of previous occasions.

THE British Balneological and Climatological Society held a conversazione on June 8th, at Limmer's Hotel, when Dr. G. Vivian Poore delivered an address on Circumstances which Influence the Effectiveness of Climatic Treatment. The President, Dr. W. V. Snow, presided. Dr. W. S. Hedley showed a new form of stereoscope for exhibiting x ray pictures in relief.

H.R.H. THE DUCHESS OF CONNAUGHT will open a bazaar in aid of the Hospital for Incurable and other Sick Children of the Poor, St. Leonard's-square, Shoreditch, on Tuesday, June 21st, at 12, Hyde Park-gardens.

THE RIGHT HON. A. J. BALFOUR will distribute the prizes to the successful students in the Medical School of Guy's Hospital on July 13th, at 3.30 P.M.

THE registered offices of the Medical Defence Union, Limited, have been removed from 20 and 21, King William-street, W.C., to 4, Trafalgar-square, Strand, W.C.

## AN OBJECT-LESSON ON THE NECESSITY FOR THE EDUCATION, REGISTRATION, AND CONTROL OF MIDWIVES.

BY WILLIAM ALEXANDER, M.D. R.U.I., F.R.C.S. ENG.,
VISITING SURGEON, LIVERPOOL WORKHOUSE HOSPITAL, ETC.

ON Friday morning, May 20th, a poor woman was seen by me in the surgical wards of the Liverpool Workhouse Hospital who had been admitted during the previous night. She was very much collapsed; the pulse at the wrist was imperceptible; the heart-beat was rapid and feeble, with only one cardiac sound audible; and the abdomen was tender and somewhat tympanitic. She was vomiting and had the appearance of a patient with a fatal peritoneal inflammation. She said she "took ill" on Tuesday morning and had been actively delivered by a midwife on Wednesday morning, who told her she had had "a cross birth." The midwife had also given her "drugs three times to assist the labour." She died about an hour after my visit, being then too far gone even to stand the examination necessary to ascertain the condition of the pelvic organs. The case was reported to the city coroner, who made inquiries into the case but was very reluctant to hold an inquest on the ground that the midwife was a very respectable woman and had been very attentive to her patient. He, however, kindly allowed us a post-mortem examination provided an inquest were to be held or not according to the result of the necropsy. This offer we accepted and the necropsy was made by Dr. Moyles and Dr. Smith in my presence on Monday, May 23rd. We found a round, ragged opening through the upper part of the vagina on the right side, going down to the peritoneum, which was stripped off the uterus for some distance. The large cavity thus formed contained half a pint of broken-down blood-clot. The stripped-off peritoneum was black and gangrenous and the peritoneal cavity contained dark purulent fluid. The uterine cavity contained foul broken-down clots and pus. The other organs of the body were sound except some old-standing adhesions of the præcordium.

Dr. Moyles reported the results of our examination to the coroner, who even then was disinclined to hold an inquest on the ground that such ruptures were natural and might happen in the practice of any medical man. An inquest was, however, held and a verdict of "Accidental death" was returned, the midwife being not only exonerated from all blame but commended for "staying by" her patient to the end. She said the child had water on the brain, that this caused the tear, and that the drug she administered three times was opium, not ergot.

About fifteen years ago a woman was brought into my wards at the Liverpool Workhouse Hospital with a coil of intestine protruding from the vagina. She had miscarried a few days previously, but the placenta was retained. The midwife who was called in pulled upon the cord to detach the placenta; the cord broke, and she tried with her finger to enter the uterus and to remove the placenta, but entered Douglas's pouch instead, and made a hole in the upper zone of the vagina only a little nearer the median line than the aperture in the present case. I think this woman was cautioned by the coroner, but no punishment was awarded for exceeding her duty and no means were taken to prevent her from acting in the future as she had done in the past.

There is no doubt that the woman who died on May 20th last did not owe her death to accident, but to want of the most ordinary medical attention at birth. The woman who attended her lamentably failed in her duty as a midwife in going on with the case when she found the child had water on the brain. Any medical man could, and probably would, have saved the mother's life. The poor patient at last being somehow delivered, and bleeding internally from a ruptured vagina, is three times dosed with opium. Even then her life might have been saved had the condition been detected and the patient removed to a hospital at once. Some time on Wednesday afternoon an order for the district medical officer was obtained, and Dr. Maguire, who saw her, gave an urgent note for admission to hospital. She did not reach the hospital till late on Thursday night in a septic and dying state, too weak to be touched and beyond the power of stimulation to produce reaction. The four points in the case which strike a medical man as requiring elucidation and upon which no light was shed by the inquest are—(1) Why did the midwife persevere with the management of a case of hydrocephaloid fœtus? (2) the cause of the rupture of the vagina; (3) the principle of the administration of opium by the midwife; and (4) the cause of delay in removing this poor woman with a ruptured vagina to hospital so that the time had passed within which her life might have been saved before she arrived there.

These two clear cases and several other midwives' cases which have died at different times in the surgical wards of the workhouse hospital from "inflammation" have made me a strong advocate for the education, registration, and control of midwives. They require to be educated so that they can recognise an unnatural labour and can acutely perceive its difficulties and the dangers of delay and of unskilful interference either by force or by drugs. They must be registered somehow so that they may be known to be educated and trustworthy, and they must be controlled to prevent such unnecessary deaths as the two I have detailed and the others I have referred to. The coroner's court and jury are not fitted for such investigations. The verdict of manslaughter which looms up in such an inquiry makes coroners recoil from ascribing blame and the jurymen are more likely to be influenced by compassion for the living woman "who did her best to relieve" than to guard the interests of her whose life has ceased, no matter how prematurely. To control these women we require local authorities where experts and legal assessors would make an unbiased inquiry, often from the midwife's own story, whether she did what she ought to do as well as what she could. If any blame attached to the midwife after a careful and intelligent inquiry then let that blame be apportioned by advice, caution, reprimand, suspension, or other ways, so that a just and righteous punishment may be inflicted, or if she were cleared from blame she would be cleared in the eyes of all whose opinion is worth having. In the interests of the public as well as in their own interests medical men should endeavour to recommend to the State a method of registering and controlling and helping midwives. Examples in Liverpool in the workhouse lying-in wards and in the Ladies' Charity Maternity show how successfully poor women can be treated by midwives aided by medical men. Surely some arrangement could be come to by which

those who can pay for a midwife should be saved from the risks to which this poor woman succumbed. If midwives are registered without any such skilled control these two inquests show how powerless the ordinary courts of law are to sift the points of a midwifery case or to ascertain whether the midwife was skilful, careful, and wise, or the reverse.

## THE MILITARY MEDICAL SERVICES OF CUBA.

(FROM A SPECIAL CORRESPONDENT.)

THE sanitary services of a field army have always been most difficult to organise. Those who remember the Crimean war will have a painful recollection of these difficulties, but will also realise that great progress in such organisation has been accomplished since those days. In Cuba the Spanish forces have had to face obstacles quite as great as those which partially overwhelmed the Allies in the Crimea. Dr. Angel de Larra Cerezo, chief of the clinic at the Cuban hospitals of Madera and Alfonso XIII., has ably explained this situation. Dr. de Larra Cerezo will be known to some English medical men as having presided over the military section of the International Congresses of Hygiene, held at London (1891) and at Budapest (1894). He is also a member of the British Sanitary Institute and of many other societies interested in the promotion of sanitary science. His opinion, therefore, on the condition of the military sanitary services in Cuba will be of interest especially at this moment. The plans, diagrams, explanations, and reports presented to me by Dr. de Larra Cerezo are carefully drawn up and I will attempt to summarise the information which was thus courteously placed at my disposal. Even in times of peace it was not found an easy matter to provide for the needs of an army which numbered only about 14,000 men, for a great number of the troops were soon invalided by the effects of the climate. Those, on the contrary—and they constituted the majority—who became acclimatised were placed in garrisons where they had but little fatigue to incur. Then suddenly, within the brief period of one year, 200,000 soldiers were sent to Cuba and within from one to two months of their arrival half these soldiers were invalided. Thus in the course of some twelve months need arose for hospital accommodation for about 100,000 men. Now before the outbreak of the insurrection, that is to say, at the commencement of the year 1895, there were hospitals only in the towns of Havana, Santiago de Cuba, Santa Clara, and Puerto Principe, and nine local regimental infirmaries established in distant places where the difficulties of communication were such that the sick could not be sent to the above-mentioned towns. The necessity of creating new hospitals soon became evident and this work was begun in March and April, 1895. At the commencement of the insurrection the military sanitary corps had throughout the island of Cuba only 2500 beds at its disposal. On Jan. 1st of the present year there were 45,685 beds ready to receive the sick and wounded. The largest hospitals are first that of Regla, which had 3600 beds in November, 1896, and now possesses 5000 beds. Then there are the hospitals of Alfonso XIII. and of Manzanillo, each with 3000 beds; those of Beneficencia, with 2100 beds; Santiago de Cuba and Sancti Spiritus, with 2000 beds each; Ciego de Avila, with 1700 beds; Cienfuegos and Sagua la Grande, with 1450 beds; Remedios, with 1400; Holguin, with 1300; Madera, with 1100; and Pinar del Rio, Matanzas, Santa Clara, Casild-Trinidad, Isabela de Sagua, Puerto Principe and Bayamo, each with 1000 beds. The other hospitals have less than 1000 beds.

During the last ten months of the year 1895, the whole of the ensuing year, and during the first three months of the year 1897, nearly half a million patients have been treated in these hospitals. The precise numbers were—from March to December, 1895, 49,485; from January to December, 1896, 232,714; and from January to June, 1897, 201,247. The number of deaths was 3200 in 1895. In 1896 there were 10,610 deaths and 3691 during the first quarter of 1897, making a total of 17,501. During the three periods mentioned, of the patients admitted 35,250 were suffering from yellow fever and of this number 11,347 died. These figures relate only to the military hospitals. Many more patients were treated in the civil hospitals, in camps, in towns and villages where there are no hospitals, in forts, in private houses, and sometimes in sugar refineries. Statistics have also been drawn up extending over eighteen years giving the number of soldiers who have been treated in the hospitals and infirmaries for yellow fever. The proportion of deaths varies considerably and is sometimes highest when there were but few cases. Thus in 1880 there were 1470 cases of yellow fever with a mortality equal to 37·85 per cent. In 1883 there were 1235 cases and a mortality of 45·34 per cent., and in 1885 only 120 cases with a mortality of 55 per cent. The next year, however, the mortality fell to 26·92 per cent. and yet there were only 130 cases. Indeed, since that date the proportionate mortality has never reached 40 per cent. The highest on record is that of 1895, with 7085 cases, of which 39·46 per cent. died. The previous year there had been only 859 cases (mortality 32·82 per cent.). The following year (1896), in spite of the tremendous strain on the hospital services, the mortality fell to 30·99 per cent., and this out of no less than 23,580 cases of yellow fever. During the first five months of 1897 there was a still greater improvement for out of 4636 cases only 27·20 per cent. died. As might well be expected yellow fever and other diseases have proved far more fatal than the bullets of the insurgents. The number of wounded nursed in the hospitals amounted to 11,902—1989 in 1895, 7270 in 1896, and 2643 in 1897. From March, 1895, when the insurrection began, to May, 1897, there died in the hospitals, from the effects of wounds and from all diseases, 22,497 soldiers.

What with the stress occasioned by the war and the enormous number of patients presenting themselves at the hospitals it has not been possible to keep very precise statistics as to the number of cases treated for malarial fever, dysentery, typhoid fever, tuberculosis, &c. It is known, however, that in the years 1896 and 1897 there were 79,552 cases of malarial fever of sufficiently severe a character to compel the sufferers to enter the hospitals. Many thousand other cases occurred among the troops who were too far away to be conveyed to a hospital. There is also a record showing that in the second quarter of 1896 there were 3193 cases of dysentery, of which 351 proved fatal, and 2903 cases of typhoid fever, resulting in 576 deaths, treated in the hospitals. In the first quarter of 1897 the cases of dysentery amounted to 4200 with 461 deaths, and of typhoid fever to 1374, resulting in 210 deaths. From July to December, 1896, and from January to June, 1897, there were 2281 cases of tuberculosis, followed by 299 deaths. These figures, though incomplete, give an approximate idea of the extent of the strain placed upon the hospitals and medical services of the island. The expense thus entailed, though estimated at a very low figure, represents for a poor country like Spain a ruinous outlay. Fortunately, a great part of the requirements for the Cuban hospitals were sent from the Government pharmaceutical laboratories and military sanitary service of Madrid and were thus supplied at a much cheaper rate than if they had been bought in the open market. 17 ambulance carriages were brought over the Atlantic from Madrid, 13 being of the Lohner type, which with some slight modifications was adopted for the Spanish army. Cases of surgical instruments were also sent over containing many of the newest and best models. The most serious operations were thus rendered possible and everything was provided for elaborate aseptic precautions. No less than 189,000 complete packages of dressings for wounds reached Cuba from Madrid; then over and above this supply each battalion brought with it the usual regimental medical supplies. From Spain 600 Pravaz syringes, 500 lancets, 850 forceps of the Fergusson, Péant, and Gollin models, 4500 sounds and bougies, 800 ordinary syringes, and 500 Davidson irrigators were sent over to Cuba. Then there were 1850 splints for fractures; 1410 elastic ferrules; 2500 bistouries, saws, &c.; a number of portable electric batteries, pulverisers, and amputation cases; all the instruments necessary for operations on the eye, ear, nose, mouth, and for lithotomy and tracheotomy; laryngoscopes, speculums, 1525 clinical thermometers, and many other objects—all sent over to Cuba by the central Government at Madrid.

The exports of pharmaceutical products were equally important. In this the pharmaceutical laboratory of the Spanish military sanitary services realised a great saving for the State. In respect to medicaments of course quinine holds the first place. No less than 11,887 kilogrammes of various

salts were sent out to Cuba, comprising 6400 kilogrammes of basic sulphate, 312 kilogrammes of bromide, 280 kilogrammes of valerianate, &c. Then there were 6950 kilogrammes of cinchona bark and 950 kilogrammes of extract. Salts of soda, potash and magnesia were also dispatched in great quantities—i.e., 63,200 kilogrammes of sulphate of soda, 85,100 kilogrammes of hypochlorite of lime, 15,000 kilogrammes of sulphate of magnesia, &c. The salts of bismuth were likewise in great demand; 4500 kilogrammes of sub-nitrate, &c. The need of sedatives was equally felt and 400 kilogrammes of opium together with 51 kilogrammes of salts of morphia were forwarded to Cuba. Among the antiseptics may be mentioned 28,900 kilogrammes of carbolic acid, 4450 kilogrammes of boric acid, 1400 kilogrammes of chloride of mercury, 560 kilogrammes of calomel, 300 kilogrammes of white precipitate, 200 kilogrammes of chloride of zinc, 2370 kilogrammes of iodoform, 680 kilogrammes of naphthol and naphthaline, 950 kilogrammes of salol, &c. Among miscellaneous articles there were 6300 kilogrammes of cod-liver oil, 2530 kilogrammes of castor oil, 1730 kilogrammes of camphor, 6220 kilogrammes of citric acid and 1950 kilogrammes of tartaric acid, 1126 kilogrammes of iodine and iodide of potassium, 800 kilogrammes of Fioraventi's balsam, 700 kilogrammes of antipyrin, 120 kilogrammes of caffeine, 1030 kilogrammes of chloroform, 270 kilogrammes of chloral hydrate, 110 kilogrammes of ergotin, 239 kilogrammes of pepsin and pancreatin, 720 kilogrammes of ipecacuanha, 350 kilogrammes of rhubarb, 910 kilogrammes of sulphuric ether, 225 kilogrammes of collodion, &c. No less than 571 kilogrammes of pills or granules were prepared and sent out. Judging from the weight this would mean about 25,000,000 granules, each being accurately prepared according to the prescription. Then 66 070 kilogrammes of carbolic absorbing cotton wool and 545,000 metres of sterilised gauze were also prepared for the use of the Cuban hospitals.

Apart from what was sent over from Spain and what was prepared by the military medical services in Cuba some purchases were made from druggists, &c., established in Cuba. These were not very extensive, as at war prices such objects were far too dear. The value of what was imported into Cuba from Spain for the use of the military hospitals from the commencement of the insurrection to the end of January, 1898, is estimated at 3,059,456 pesetas, and it has been calculated that if the same medicaments, &c., had been bought from the druggists and others of Cuba at the war prices the cost would have been 8,826 248 pesetas. Thus what is known as the Central Park of the Military Sanitary Service at Madrid, and the State institutions generally, have saved the Spanish nation, in the period mentioned, the sum of 5,766,792 pesetas. In this manner vast supplies were forthcoming at small cost and the quality and purity of the goods provided are stated to have been very strictly controlled.

The field and railway ambulances are described as having rendered valuable service. But the bad condition of the ground was a great obstacle. There are but few roads, and even roads which have been but recently made are soon overrun and obstructed by the exuberant vegetation of the country. The greatest efforts, therefore, were made to bring the sick and wounded to the railway lines, where the railway ambulance waggons greatly facilitated their conveyance to town hospitals. There were 30 such hospital railway waggons running at Havana, Santiago de Cuba, Matanzas, Santa Clara, Manzanillo, Sagua la Grande, Trinidad, and Cienfuegos. Some fine steamships of the Spanish Transatlantic Company were also converted into hospital ships so as to bring back the wounded and the sick to Spain. These ships generally contained four hospital wards of 96 berths each, with free space or air passage at the head and foot and on one side of every berth. These ships are painted white, so that any lack of cleanliness may be more readily seen and remedied. The furniture, folding tables, basins, &c., are of metal so as to be more readily cleaned. Apart from the four large wards or cabins these ships also contain four smaller compartments with in all 78 berths, which are reserved for purposes of isolation or for the more serious cases. The floors are kept as smooth and as free from obstacles as possible and fans worked by steam or electricity help to assure a good ventilation. A Geneste and Herscher disinfecting stove is placed on each hospital ship and porcelain and asbestos filters are employed for the drinking water. The pharmacy is situated in the middle of the ship so as to be of easy access and all that is necessary for operations, post-mortem examinations, &c., is provided. These hospital ships can accommodate some 500 patients.

The military hospital at Havana, named after Alphonso XIII., is one of the best in Cuba. It occupies nearly an entire kilometre of ground and is situated on an elevation rather more that a mile outside the town. It was opened at the end of the year 1895, when Marshal Martinez Campos was Governor-General of Cuba. There are fifty different clinics; these include twelve separate pavilions for infectious diseases, with kitchens, residence for staff, &c., attached and apart from the services of the rest of the hospital. The operating room is also in a separate building and furnished on aseptic principles. There are four wards set aside for officers, one of these wards being reserved for cases of yellow fever and another for the wounded. Then there is a separate building devoted to hydro-therapeutics, and there is a special building for the pharmaceutical department. A disinfecting stove is in constant work and a steam laundry close at hand, which enable the authorities to wash and disinfect all the clothing of the patients when they enter the hospital. Another large building contains a model steam kitchen, where the meals for some 3000 patients can be prepared and cooked daily. Many more separate buildings are occupied by the resident surgeons, the nursing staff, &c. Finally, there are six pavilions near at hand but separate from the hospital which serve as a sort of convalescent home or residence for invalids. All these buildings, which number close upon a hundred, drain into a system of sewers constructed especially for the hospital and there is an ample water-supply. This water is pumped into two metallic reservoirs situated on a hill behind the hospital. The steam power is used for this purpose and is also employed to provide the electric lighting of the buildings. Though the statistics of the number of patients in all the hospitals of Cuba have not been kept in full, the cases treated at the Alphonso XIII. hospital are carefully recorded. Thus in 1896 there were 36,202 patients. The greatest number of patients (4611) were entered in the month of October. The month of August with 4576 new patients, November with 3943, and July with 3740 patients were, with October, the four worst months of the year. The best months were February with 1343 new patients, January with 1525, and April with 1916 new patients. There were in the course of the year 1494 deaths and 32,420 patients were discharged as cured, the total number of patients being, as mentioned above, 36,202. The greatest number of deaths occurred in the months of August, October and November. Of the patients treated 21,731 were medical cases and 4154 were surgical cases. There were 2201 cases of venereal disease, 2381 wounded in war, 2201 cases of yellow fever, 1290 cases of cutaneous disease and 600 of infectious fevers other than yellow fever. The mortality is subdivided as follows: 710 deaths from yellow fever and 86 deaths from other fevers, 618 deaths among the general medical cases, 72 deaths from wounds and 8 resulting after surgical operations.

Though in 1897 there was a greater number of patients there was a reduction in the mortality. At the commencement of the year 2288 cases remained in the hospital. During the year 42,540 entries were made, giving a total of 44,828 patients treated in 1897. The worst months were: July, 4930; August, 4759; June, 4755; September, 4529; and October, 4239 entries. It was only during the months of February and March that the entries (1864 and 1831) were below 2000. In these same months there was the smallest number of deaths. The greatest number of deaths were in the months of December, November, October, and August respectively. In all, there were only 13 more deaths than during the previous year, though the hospital had received 8500 more patients, a fact due principally to a diminution of yellow fever. The 44,828 patients are grouped pathologically in the following manner: 34,002 internal diseases, 1480 cases of yellow fever, 1347 other infectious diseases, 3585 surgical cases, 952 wounded, 1846 skin diseases, 1074 venereal diseases, and 522 ophthalmic cases. Among these patients 1056 died from internal diseases, 327 from yellow fever, 68 from other infectious diseases, 37 from wounds, and 17 from surgical and syphilitic affections. Thus it will be seen that though there was a great reduction in the death-rate from yellow fever that of the general medical department had greatly increased. This is attributed to the lowered health of the army resulting from the bad climate and the hardships of the campaign. The deaths due to wounds were also

comparatively less; the great evil results from the anæmic condition of the troops, and though these figures relate to but one hospital still they may be accepted as typical of all the military medical services of the island. The staff of the Alphonso XIII. hospital consisted of 170 persons, including 27 surgeons. Nevertheless, on many occasions this staff proved insufficient for the work which had to be done and it was only accomplished by extra zeal and by trespassing on the hours set aside for rest. Altogether, and for the entire medical military services of Cuba from the commencement of the insurrection to the middle of the year 1897, no less than 600 surgeons have been engaged in attending to the sick and wounded. Of these 50 have died in the accomplishment of their duty, the greater number being victims of yellow fever. 6 dispensing chemists have likewise met with the same honourable fate. 25 surgeons were wounded on the field of battle and 4 were killed. There can be no doubt that the military medical staff showed under the most trying and dangerous circumstances all the courage and heroism which have so often distinguished the Spanish people in general and the medical profession in particular.

Madrid, May 31st.

## THE IRISH LOCAL GOVERNMENT BILL.

### IV.[1]

IN the last article those provisions of the Bill which bear specially on matters directly affecting the medical profession were examined. A few words will conclude the consideration of this department of the subject. Clause 120 runs as follows: "Every existing officer declared by this Act to be entitled to compensation, and every other existing officer, whether before mentioned in this Act or not, who by virtue of this Act, or anything done in pursuance of or in consequence of this Act, suffers any direct pecuniary loss by abolition of office or by diminution or loss of fees or salary, shall be entitled to have compensation paid him for such pecuniary loss by the county council, to whom the powers of the authority whose officer he was, are transferred under this Act, regard being had to the conditions on which his appointment was made, to the nature of his office or employment, to the duration of his service, to any additional emoluments which he acquires by virtue of this Act or of anything done in pursuance of or in consequence of this Act, and to the emoluments which he might have acquired if he had not refused to accept any office offered by any council or other body acting under this Act, and to all the circumstances of the case, and the compensation shall not exceed the amount which, under the Acts and rules relating to Her Majesty's Civil Service, is paid to a person on abolition of office." It is further enacted in Sub-section 4 of the same clause that: "If a claimant is aggrieved by the refusal of the county council to grant any compensation, or by the amount of compensation assessed, or if not less than one-third of the members of such council subscribe a protest against the amount of the compensation as being excessive, the claimant or any subscriber to such protest (as the case may be) may, within three months after the decision of the council, appeal to the Treasury, who shall consider the case and determine whether any compensation, and if so, what amount ought to be granted to the claimant, and such determination shall be final." Sub-section 7 of the same clause enacts that: "If a person receiving compensation in pursuance of this section is appointed to any office under the same or any other county council, or by virtue of this Act, or anything done in pursuance or in consequence of this Act, receives any increase of emoluments of the office held by him, he shall not, while receiving the emoluments of that office, receive any greater amount of his compensation, if any, than, with the emoluments of the said office, is equal to the emoluments for which compensation was granted to him, and if the emoluments of the office he holds are equal to or greater than the emoluments for which compensation was granted, his compensation shall be suspended while he holds such office." These provisions are evidently equitably designed, though it may be a question whether it is perfectly just to mulct an existing officer of a portion of his compensation in case he should refuse to act under the new county councils. The case of Ireland is peculiar in this respect, and those who know the country would not be surprised to find instances of officers at present in the employ of the grand juries who for various reasons, might decline to accept office under the new *régime*.

The Bill has now passed through Committee in the House of Commons and no amendments of substantial importance have been carried. The discussions have largely centred upon the financial arrangements, which have been sharply but unsuccessfully attacked by the English Radical party as involving improper concessions to the Irish landlords. It is significant that the official Opposition has not to any extent joined in these attacks and that the conduct of the Bill by Mr. Gerald Balfour and the Attorney-General for Ireland has received high encomiums from every quarter of the House. Mr. G. Balfour, though invariably courteous and patient, has not made any important concession, and it is evident that every detail of the Bill had been carefully thought out beforehand and that he has expressed his fully matured views. It is interesting to observe that while the proposal of Sir Thomas Lea to provide out of the local taxation account the salary of more than one trained nurse in every union was rejected the majority supporting the Chief Secretary in opposing the proposition was one of the smallest recorded for the Government in the course of these discussions. An effort was made to reject that sub-section of the Act which provides that where any part of the salary of an officer of a county council was paid out of money provided by Parliament or from the local taxation account, he should not be appointed or removed without the concurrence of the Local Government Board. This effort was unsuccessful, the general sense of the House being evidently in accord with the view of Mr. G. Balfour that this provision would tend to induce a better class of men to become candidates. An amendment moved by Sir Walter Foster to the effect that every resident medical superintendent of lunatic asylums should have served for not less than five years as a medical officer in an institution for the treatment of the insane was accepted by the Chief Secretary. This proposal is not only an important and reasonable one upon its merits, but it will tend in some measure to safeguard the interests of the present assistant medical officers in asylums, whose position under the Act will be somewhat insecure. A proposal that officers and servants after twenty years' work in an asylum should, if not less than fifty years of age, be entitled to an annuity amounting to two-thirds of their salaries was rejected. An important discussion of much interest to the members of the medical profession arose in connexion with a new clause dealing with county infirmaries and fever hospitals which was moved by the Chief Secretary. In moving the clause Mr. G. Balfour said that "it was feared by many that with the transference of the powers of grand juries to county councils county infirmaries would be left out in the cold, and that the subscriptions hitherto made to them by the grand juries would no longer be paid by the new bodies, and that consequently these institutions would come to grief. They provided against that by what was itself a somewhat strong provision—namely, that county councils should be compelled to subscribe to these county infirmaries as much as the grand juries had done in the past." In resisting an amendment which proposed to compel county councils to provide funds for the completion of any county infirmary which might be in course of erection at the time of the passing of the Act and for which adequate funds from private sources were not available, Mr. G. Balfour said that if this proposition were adopted private subscribers would not subscribe anything further and that he felt bound to resist this proposal, but that if he had an assurance that it would be acceptable to all sections of Irish representatives he would undertake to insert a sub-section providing that county infirmaries might, if they pleased, contribute money towards the erection or maintenance of private infirmaries. It is impossible not to recognise in these proposals a generous recognition on the part of the Government of the importance of the county infirmaries and the necessity of securing them against possible vicissitudes in the future. In further discussion of this subject Sir Walter Foster moved an amendment to the effect that "nothing in the Act should deprive any existing officer of any infirmary or hospital to which the section applied of any privileges, salaries, and allowances

[1] Nos. I., II., and III. were published in THE LANCET of May 14th and 21st and June 4th, 1898, respectively.

enjoyed by him under any Act. He pointed out that it was usual to pay surgeons a salary and then at stated periods to vote them an additional sum from the voluntary contributions which were received. He did not anticipate that there would be in the future any falling off in such receipts, but if there should be it would be an injustice to a most useful class of public officials if they were to be deprived of any part of their emoluments." Mr. Gerald Balfour resisted this proposal, remarking that the object of this amendment seemed to be to secure to the medical officers of infirmaries an absolute guarantee that their present salaries and allowances should be continued out of the rates in the event of what had hitherto been provided from charitable sources falling short of the requirements. Sir W. Foster's proposal was rejected and the clause ultimately passed in the form suggested by the Chief Secretary.

The Meath Hospital (Dublin) and the mode of electing officers which prevails at that institution came in for adverse comment in the discussion upon the new clause above referred to. Mr. Plunket moved an amendment providing that nothing in the Act should affect the mode of election of the physicians and surgeons of the Meath Hospital and County Dublin Infirmary. Sir Walter Foster condemned the system of coöption which prevails at this hospital, while Mr. J. H. Campbell defended it on the ground that the present arrangements arose out of an agreement made 100 years ago whereby the then staff surrendered a Government grant of £100 a year on condition that they should enjoy the privilege of coöption. This is surely a very extraordinary contention. Of all the modes of electing honorary medical officers to a hospital that by coöption seems absolutely the worst and most indefensible. Mr. Plunket's amendment was very properly rejected. A new clause moved by Mr. G. Balfour transferring to the council of every urban district excepted from Section 160 of the Public Health, 1878, the business of the board of guardians as burial board was added to the Bill. The Chief Secretary also moved a new clause for preserving the right to superannuation allowances of officers transferred to the new councils, and after some debate it was added to the Bill. A number of suggested new clauses were postponed to the report stage and the Bill finally passed through Committee without substantial modification. The changes which have been effected in the Committee stage are, on the whole, improvements, and some of the amendments, though apparently of minor importance, touch the medical profession somewhat closely. Mr. Gerald Balfour deserves much credit for intervening on behalf of the county infirmaries in Ireland and taking steps to secure them against loss of income in the future. These institutions are of great practical value and are, on the whole, ably and impartially administered. Whether the new elective bodies will be any less disposed to maintain these infirmaries in a state of efficiency than are the present grand juries remains to be seen, but apprehensions on this score were not unnatural, and the Chief Secretary has acted wisely in introducing the new clause which has been explained in the present article. It need not be resented by anyone, inasmuch as the present Bill in many other instances limits and defines the financial powers of the new county councils, and the clause will quiet fears which, whether justly or not, had been generally excited. Few things would be more regrettable than any impairment of the efficiency or limitation of the usefulness of the county infirmaries of Ireland. But, as alluded to in a previous article, their present constitution and government are anomalous and can hardly be permanent. Some better system must be devised and it should aim at attracting more voluntary financial support to these institutions.

Unless further changes are effected on the report stage of the Bill, it is not evident that the position of dispensary medical officers in Ireland will be improved under the new *régime*. That some improvement is desirable, even indispensable, may be freely admitted, but it is a question whether the remedy for existing evils is to be sought by Act of Parliament, or by influencing the new elective bodies or by better organisation among the members of the medical profession. Mr. Robert Gray of Armagh, President of the North of Ireland Branch of the British Medical Association, in his presidential address recently delivered before that body remarked:—"Let us consider what has been accomplished for the Poor-law medical service during the past fifty years. Are the men in it better or worse than those holding office then? No doubt some slight improvements have been effected and benefits have been obtained by the energy of the Irish Medical Association. This association has been in existence for about sixty years. It was established to protect and advance the interests of the medical profession in Ireland. ..... Permit me to enumerate some of the results of its work. The association, by a Bill drawn by itself, doubled the vaccination fees; by its agitation it caused the certification of lunatics, which had been previously gratuitous, to be paid for at the rate of £2 per examination; by pressure it secured that the Poor-law medical officers of Ireland should be the agency for working the public health system and should be paid for the work, and by further agitation secured payment for the additional work of attending at sanitary prosecutions; by its efforts it induced the authorities to double the fee for attending the constabulary and it secured for Poor-law medical officers the pensions which they enjoy and which were denied them by earlier legislation; and it is still most earnestly and untiringly engaged in the effort to overcome the objections of a section of Parliament to make these pensions a matter of right, upon which object it has lavished time, thought, and money. ..... Look at the salary paid to a medical officer of a dispensary. He is somewhat like his *confrère* the physician to a hospital—i.e., he practically works for nothing. The salary of the dispensary officer over Ireland averages about £120 a year. For that sum he attends all the sick poor in his district. You are aware that his work is spread over a district perhaps of thirty miles, some districts larger, very few smaller. He requires two horses and a man to attend them (a calculation is given showing that the expense of maintaining these will practically eat up the entire salary). ..... In the intervals between his attendance at the dispensary and visiting the sick poor at their own homes, the medical officer may be content if he can earn enough to feed and clothe himself. I need not tell you that in numbers of districts there are not enough wealthy or paying patients to afford this. In many cases life is not worth living in such places. Why should such a state of things exist? It is simply because if one of these dispensaries becomes vacant dozens are fighting and canvassing and bringing every particle of influence to get pushed into it." This is a somewhat gloomy picture, but there is no reason to think that it is exaggerated. Mr. Gray evidently puts his finger upon the weak spot when he shows that the evils of the present system are chiefly due to the willingness of medical men to accept onerous and ill-paid posts. The remedy lies with the medical profession itself and the complete success which has attended recent efforts to improve the status of medical men in the army should be laid to heart by the Poor-law medical officers in Ireland. They should warn off intending candidates until the conditions of the service are made more tolerable. Many changes will be required, but at present the most urgent question is to secure adequate pensions on completion of a certain period of service and to provide that these pensions shall not, as at present, depend upon the caprice or goodwill of any elective body, but shall be granted strictly according to rule, as in the civil service.

The Irish Local Government Bill will no doubt easily pass through the House of Lords and become law. In less than a year Ireland will in all probability be trying this new and great experiment in the matter of local self-government. That some temporary confusion and disappointment may arise is not improbable, but the ultimate result can hardly fail to be salutary. Much will depend upon the spirit in which the new legislation is received. It is earnestly to be hoped that the Irish gentry will not stand aloof, but that they will accept their altered position and endeavour to exert under new conditions that influence in the country to which their wealth, talents, and experience fully entitle them. They have in the past produced some of the greatest administrators of many of the most important portions of the British Empire. India, Canada, Australia, and the Cape have repeatedly benefited by the energy and capacity of governors and administrators drawn from the ranks of the Irish gentry. Their fortunes in their own country have been much less brilliant and the causes of their failure there might be enumerated if this were the place to do so. But why should not a new day dawn for Ireland and the Irish gentry? Democratic conditions of Government must now be accepted as a matter of course, but rank, energy, wealth and experience must always

command their due meed of influence and authority. At present the omens are favourable. Everything will depend upon the spirit in which the present legislation is accepted and carried into effect. When Pope wrote the well known lines:

> For forms of government let fools contest;
> Whate'er is best administered is best,

he expressed only a half truth, but it is a half truth which finds a special application in the circumstances of the present legislation affecting local government in Ireland.

## THE MEDICAL, SURGICAL, AND HYGIENIC EXHIBITION.

As we announced last week it has been decided to hold an exhibition of medical, surgical, and hygienic appliances in London every year which should afford the busy practitioner in the metropolis and its environments a convenient opportunity of inspecting new appliances, new foods, new drugs, and other novelties and improvements of interest to the profession. The exhibition, of course, has its commercial side, but discretion is evidently exercised in this important particular, and the exhibits which are allotted a space are in general of a selected character having a direct bearing on the progress of medical science in some way or other. The visitors to the exhibition which was held in the Queen's Hall, Langham-place, May 31st to June 3rd, comprising chiefly medical men, hospital nurses and ambulance officers, could not have failed to have had their interest aroused and their inquiry rewarded by even a cursory glance of the many and varied exhibits exposed to view. We may therefore, as briefly as possible, give an outline of those exhibits which we consider are well worth bringing before the notice of our readers. For this purpose the exhibition may be conveniently divided into six sections—namely, drugs, foods and food products, surgical appliances, sanitary appliances, mineral and medicinal waters and beverages, and miscellaneous objects.

In regard to drugs, Messrs. Parke, Davis, and Co., of 21, North Audley-street, W., displayed a great variety, a feature of their exhibit being their standardised fluid extracts which represent therapeutically in the proportion of cubic centimetre for gramme the drugs from which they are prepared. The preparations are also carefully assayed chemically, and, where this is not possible, physiologically. The preparations shown included the digestive ferments, amongst the most remarkable of which is taka-diastase, which will convert at least, as we ourselves have shown, 100 times its weight of starch. Then there was a list of articles described as chemists' specialities and physicians' requisites, amongst which may be noticed euthymol, an agreeable liquid antiseptic which is described as not being poisonous, irritant, or escharotic; ferratin, a chemical combination of iron and albumin and identical with the form of iron occurring naturally in many foods; and, lastly, lactophenin, an antipyretic, antineuralgic, and analgesic, upon which we have already reported. Messrs. Oppenheimer, Son, and Co. (Victoria House, Thames Embankment) again brought their palatinoids forward, the latest application of this ingenious and satisfactory form of administration being devoted to the animal substances. The exhibit also included palatinoids of liquids such as amyl nitrite, chlorodyne, beachwood creasote, and British Pharmacopœia tinctures. Illustrations of the value of the administration of unstable mixtures by means of the bi-palatinoid occurred in the compound syrups and in the combination of ferrous carbonate with red marrow. The feature of Messrs. Cooper and Co.'s (80, Gloucester-road, South Kensington) exhibit was the flexible, tasteless, and readily soluble wafer capsules known as "cachoids." This satisfactory means of administering nauseous and insoluble powders may be applied to almost any drug. Among the preparations which we noticed were those containing quinine, antipyrin, sulphonal, phenacetin, and bismuth. A combination of interest and value was the liquor quininæ salicylatis, which is more readily absorbed in this form than in powder or pill. Mr. B. Kühn, 36, St. Mary-at-Hill, E.C., exhibited some new preparations of interest. Of these we may select the colchi-sal capsules, containing a compound of chemically pure colchicine dissolved in natural methyl salicylate. For external application betul-ol (methyl oleo-salicylate) is recommended. The excellent antiseptic chinosol in several forms was shown and there is little doubt of the powerful nature of this remarkable disinfectant, which so long as it is used in the form of a solution of prescribed strength presents no drawbacks. The exhibit included also ethyl-chloride and tannalbin, an intestinal astringent, diuretin, and ferropyrin, a combination of antipyrin with perchloride of iron which is a useful hæmostatic and styptic. Chloroform was, of course, the chief subject of Messrs. Macfarlan and Co.'s (9 and 11, Moorlane, E.C.) exhibit. Their chloroform was introduced in 1892 and was amongst the first having any claim to purity for medicinal purposes. In the same exhibit were shown sulphur cones, which are convenient for use as a means of disinfection. Messrs. Lewis and Burrows, of 67, Piccadilly, occupied a stall upon which could be seen distinct evidence of the advance of pharmaceutical art. Their exhibit included "cremol," an emulsion of cod-liver oil with the hypophosphites of lime and soda; the preparation is stable and as free as can be from the taste of cod-liver oil. Quite up to date were the pharmaceutical novelties shown by Messrs. Southall Brothers and Barclay of Birmingham. These included the preparations of the new British Parmacopœia and some well-arranged collections of materia medica for colleges and students. The somewhat complex compounds as exemplified in the liquor auri brom-arsenatis and the liquor auri brom-hydrarg. arsenatis were again exhibited by Messrs. Arthur and Co., of 69, Berners-street, W. These preparations have been used with encouraging results in the treatment of nervous diseases and especially in epilepsy and in the morphia habit. The preparations shown included also a neutral combination of lime and iron, which is non-astringent and practically tasteless, and tannopumilio, a combination of digallic acid with the essential oil of pinus pumilionis, and is said to be a good external remedy for irritation of the skin set up by friction or sunburn. Not far away were the specialities of Messrs. S. Kutnow and Co., of 41, Farringdon-road, E.C. Amongst these were the improved effervescent Carlsbad powder, an anti-asthmatic powder, and cigarettes with the same purpose in view as the last.

Unquestionably the major portion of the exhibition was devoted to foods and food products, humanised milk and sterilised milk being particularly in evidence. The exhibit of Messrs. Welford and Sons, of Elgin-avenue, Maida-vale, W., showed considerable enterprise. The preparations included asses' milk, facsimile human milk, peptonised milk, sterilised milk, koumiss, and milk specially prepared in accordance with medical prescription. In the same way the Aylesbury Dairy Company exhibit afforded similar evidence of the care and precision now devoted to the preparation of milk products. The exhibit, also, of the Milk Preparations Company of Brentwood conveyed an assurance to the medical visitors of the excellence of their several preparations, including humanised, peptonised, and sterilised milk, butter, malted food, and milk-sugar. They are all known as the "Sap" brand. Close by was an exhibit devoted to the products of the Excel British and Colonial Milk Sterilising Co., of 23, Queen Victoria-street. Human milk prepared by Gaertner's process, which was fully described in THE LANCET of July 3rd, 1897, formed the subject of exhibition by the Friern Manor Dairy Farm Co. of 20, Farringdon-street, E.C. As still illustrating the remarkable advances now made in the preparation of milk products we should mention also the Milkmaid brand condensed milk of the Anglo-Swiss Milk Co., of 10, Mark-lane, who have been very energetic in laying stress upon the full amount of cream being retained. Then there were the samples of unsweetened condensed milk shown by the First Swiss Alpine Milk Exporting Co. of 3, Laurence Pountney-hill, E.C. An excellent example of a milk-derived food was shown in the food prepared by Mr. Henri Nestlé, 48, Cannon-street, E.C., which presents a composition which is completely in accordance with infantile requirements. At the same stall were shown condensed Swiss milk, containing a maximum proportion of cream, and Viking milk, also a condensed milk but without sugar. Next we noticed a preparation which has deservedly been held in good favour—namely, Horlick's malted milk, which consists of a dry powder containing all the elements of milk in a malted form. Its excellent flavour is not the least satisfactory feature. Malt preparations

were well represented; thus there was the original malt extract of Messrs. Leopold Hoff of 29, New Bridge-street, E.C., and the many excellent maltine preparations of the Maltine Manufacturing Company, Ltd. These latter include maltine with pepsin and pancreatin, maltine with the hypophosphites, maltine with Easton's syrup, maltine with the phosphates, and maltine with coca wine. There were many carbohydrate foods exhibited which had been partially converted by the digestive action of diastase. Amongst these may be mentioned the food for infants and invalids prepared by Mellin's Food Company, Ltd., Stafford-street, Peckham, S E. This firm also prepare "lactoglycose," a combination of the above food with fresh cow's milk, thus comprising a highly nutritious preparation. Again, Beane's Food is described as "diastased farina" and contains a large proportion of dextrine and maltose. It possesses a rich malty flavour, and is unquestionably a readily assimilated preparation. Under the carbohydrate category must be included also the Hovis flour and bread of the Hovis Bread Flour Company, Ltd., 27, Millbank-street, Westminster, S.W. As is well known, Hovis flour contains the germ of wheat and is very nutritive, pleasantly malty to the taste, and the bread made with it keeps agreeably moist. On the other hand, starchless foods were represented in the exhibits of Messrs. Callard and Company, of 65, Regent-street, the specialities shown being food for the diabetic, food for reducing weight, food for the rheumatic and gouty, and food for indigestion. A large assortment of diabetic foods was also shown by Messrs. G. Van Abbot and Sons, of 6, Duke-street Mansions, Grosvenor-square, W. In addition to these there were also submitted specimens of mock and real turtle soups, beef tea, meat lozenges, hypophosphite of lime biscuits, digestive biscuits and their well-known nutritive biscuits containing 20 per cent. Mosquera beef meal. The food products connected with the name of Mosquera were represented by Messrs. Parke, Davis, and Co., the preparations including beef jelly, beef cacao, nutrient suppositories and beef meal. The latter is a predigested meat powder containing in entirety the nourishing and stimulating constituents of beef in a concentrated form. There were several preparations of beef shown, and the exhibit of the Bovril Co., of 30, Farringdon-street, E.C., contained a very large assortment. Besides bovril itself a special invalid bovril was offered for inspection and trial. Then there were the emergency cartridges for military and naval purposes, for expeditions, &c., and bovril "stamnoids," consisting of a specially concentrated meat lozenge, very serviceable for travellers, cyclists, and others. On this stall also were the Liquor Carnis preparations now in the hands of the Bovril company. Another fluid beef which has found favour of late is the Vimbos fluid beef, the feature in which is said to be a high percentage of albuminous matter. This company (130, Queen Victoria-street, E.C.) also prepare some excellent lozenges which are free from gelatin and contain muscular fibre. Portable meat preparations were also represented on the stall of Messrs. Coserza and Co., of 94, Wigmore-street, W., who devoted the exhibit exclusively to Maggi's Consommé, which is a cartridge containing all the materials for the preparation of an excellent soup. A very convenient method of preparing beef-tea for soup was shown by the Valentine Extract Company of St. George's House, Eastcheap, E.C. The preparations shown consisted of "valtine" meat globules, beef-tea or soup globules known as "peloids," and globules for swallowing whole. A novelty in the preparation of meat lozenges was shown by the Marvine Syndicate, Ltd., of 45, Wilson-street, E.C., in their "geloids," which by their fruit contents serve as thirst-quenchers in addition to being nutritive. The largest known beef extract, Liebig's Extract of Beef, of 9, Fenchurch-avenue, was adequately represented at the stall of the company. In addition to the ordinary extract peptarnis was shown, which, as our own analyses have demonstrated, is a powerful nutrient and stimulant containing the peptones of beef in addition to extractives. The visitors were interested in making practical trials of "Vejos" (Vejos, Ltd, 143, West Hamlane, E ), which, though a pure vegetable extract, presents an appearance and taste very closely resembling meat extract, while it possesses similar dietetic properties. Both digestive and digested products were well illustrated in the exhibit of Fairchild Brothers and Foster of Snow-hill, E C. Besides the "zymines" there were shown the interesting preparation "panopepton," a liquid preparation containing the digested products of beef and wheat flour; "pepsencia," a liquid containing the organic ingredients of the gastric juice extracted directly from the peptic glands of the stomach; and lastly, peptogenic milk powder, which affords one of the best methods for extemporising milk as closely as possible on the lines of composition of human milk. Messrs. Broomfield and Co., of 83, Upper Thames-street, employ an excellent method for especially refining vegetable fat, the product termed "albene" being well adapted for cooking purposes. It does not become rancid and offers many advantages as an adjunct in cooking over butter or other animal fats. A well-designed exhibit was that of Messrs. Scott and Bowne, of 95 and 98, Great Saffron-hill, E.C. Their cod-liver oil emulsion has been so recently reported upon in our analytical columns as to need no further comment.

Apparatus, instruments, and appliances formed not the least interesting part of the exhibition, particularly to medical men. Practically all the leading makers of surgical appliances were represented. Amongst these should be mentioned the comprehensive displays by Messrs. Mayer and Meltzer, of 71, Great Portland-street, W.; Messrs. John Weiss and Son, of 287, Oxford-street, W.; Messrs. Evans and Wormull, of 31, Stamford-street, E C.; Messrs. Maw, Son, and Thompson, of 7 to 12, Aldersgate-street, E.C.; and Messrs. Down Brothers, of St. Thomas's-street, Borough, S.E. Manifold hospital and other appliances were shown by Mr. Blass, of 155, Camden-road, N.W., who showed an improved machine for moving sick beds; the Domen Belt Co., of 456, Strand, had on view their excellent series of abdominal supports, belts and corsets; Messrs. Anderson, Anderson and Anderson, of 37, Queen Victoria-street, E.C., had a wide assortment of rubber appliances, including water-beds, cushions, pillows, waterproof mattresses, and elastic hosiery; Mr. Stacey, of 4, Newgate-street, E.C., showed some serviceable apparatus for the use of nurses; Messrs. Salmon Ody and Co., of 292, Strand, W.C., devoted their space to the exhibition of trusses, artificial limbs, &c.; Messrs. Bailey and Son, of 38, Oxford-street, W., also exhibited some admirable nursing appliances as well as aseptic instruments, ward tables, water beds, &c.; Mr. Frank A. Rogers, of 327, Oxford-street, W., exhibited medical sprays, inhalers and douches, the exhibit including also the "hypodermules," consisting of small sealed glass flasks containing accurately measured doses of sterilised solutions for instant hypodermic injection; Messrs. Macfarlane showed Listerian surgical dressings and catgut ligatures and silk sutures. The jacketed vessels shown by Messrs. W. A. S. Benson and Co. are worthy of more than passing notice. These vessels are made of copper with an inner body or liner, separated from the outer body or jacket by insulating material, so that heat passes very slowly from or to the contents. Thus, boiling water in the No. 1 size took one hour to cool to 185° F.; that is, it was still hot enough to cook eggs or to make tea. After five hours the water was still as hot as is comfortable to the hand, while the outer case never becomes more than gently warm. The two-gallon size maintains its contents warm for some twelve hours, so that a supply of hot water can be kept in the bedroom from morning till evening or through the night. Mr. Louis P. Casélla, of 147, Holborn-bars, E.C., presented an admirable display of clinical instruments, and the exhibit included a specially devised portable anemometer and his well-known standard meteorological set of instruments. Lastly, Messrs. Watson and Sons of 313, High Holborn showed all the apparatus with their own improvements now requisite in the application of the x rays to medicine and surgery.

The sanitary section of the exhibition consisted mainly of various disinfectant preparations. Amongst these should be mentioned the sulphur dioxide preparations of Messrs. A. Boake Roberts and Co., of Stratford, E. In addition was a new fluid preparation called "lozar," which is remarkable (carbolic acid being the basis) in being miscible with water in any proportion. The Sanitas Co.'s exhibit was very extensive, and included the great number of useful and pleasant sanitary preparations now contained in their list. The merits of izal have already been described in our columns, since which time the number of preparations has been largely extended, as in izal lint, wool, gauze, lozenges, and ointment. The exhibit was undertaken by Messrs. Newton, Chambers, and Co., of 331, Gray's-inn-road. Ventilation was represented in the Blackman Fan combined with an electric motor shown by the Blackman

Ventilating Co., 63, Fore-street, E.C. Ronuk was exhibited by Ronuk, Ltd., of 83, Upper Thames-street, E.C., as an example of a sanitary polish for the floors of hospital wards. Messrs. D. Blair and Co. demonstrated the usefulness of the "Instra" warmers, which may be used in the pocket or as chest-warmers or foot-warmers. The only novelty shown in soap was the ovaline soap of the Ovaline Soap Company, Ltd., of 203, High Holborn. It is said to be advantageous to the hair on account of being prepared with yelk of egg, while it is free from irritating properties. The Fleming Oil and Chemical Co., Ltd., of 101, Leadenhall-street, E.C., exhibited a useful list of moth preventive substances besides several disinfectants and toilet soaps. The Jeyes Sanitary Compounds Co., of 64, Cannon-street, found an excellent assortment of their well-known disinfectant preparations to form an attractive exhibit. Lastly, the application of asbestos to garments for protection against fire was illustrated by Messrs. Zimmer and Co., of 82, Mark-lane. The exhibit included also admirably designed workmen's health-protecting and safety appliances, such as safety spectacles and various patterns of respirators of use in dangerous trades. Some toilet preparations, generally of a pleasant character, like rose-water, hair-wash, and emollient skin applications, were placed on view by the Anti-Fermentine Co., Ltd., of 16, Bedford-street, Covent-garden, W.C.

Natural and artificial mineral waters were represented by most of the well-known aerated water makers and several natural purgative waters (Condal, Hunyadi Janos, &c.) decorated the stalls of well-known agents. Suffice it to describe two exhibits which attracted considerable interest. The first (shown by Aerators, Ltd., of Broad-street-avenue, E.C.) consisted of a method by which soda-water or any liquid aerated with carbonic acid gas can be easily prepared. A specially constructed bottle protected with gauze is fitted with a hollow stopper which serves as a container for a little bomb, or "sparklet," as it is called, containing carbonic acid gas. On screwing the stopper into position the sparklet is pierced by a hard steel point, the bottle is reversed and the liquid within thus aerated. The apparatus may be used for the aeration of milk without diluting it. It should prove useful also for travellers or on any occasion where the extemporaneous preparation of an aerated beverage is desired. The bottle costs 3*s.* and the sparklets 1*s.* 6*d.* per dozen. Tablets are also prepared containing definite amounts of various ingredients, such as carbonate of soda, lithia, &c., to imitate mineral waters. The other distinctly novel exhibit was that shown by Messrs. Cooper and Co., of 80, Gloucester-road, S.W. We refer to the oxycarbonated mineral waters—i.e., waters charged with oxygen as well as carbonic acid gas. The water used is distilled, and on examination both bacteriologically and chemically by Sir E. Frankland proved trustworthy.

Several spaces were fitted up as bookstalls, the publishers so represented being the Rebman Publishing Co., of 11, Adam-street, Strand; Messrs. John Bale, Sons, and Danielson, of 85, 87, and 89, Great Tichfield-street, Oxford-street, W. (this exhibit including medical diagrams and charts); and The Scientific Press, Ltd., of 28 and 29, Southampton-street, Strand.

The preparation of pure yeasts in the treatment of disease was illustrated in the "Backèrine" Laboratory under the direction of Mr. Horace Manders and M. E. Lachenaud. The fact that yeast cells have the property of assimilating microbes or "inglobing" them has suggested the injection of yeast in lupus and pulmonary phthisis. It is said that these pathological conditions have improved remarkably under injections of yeast. It is even suggested to use yeasts as a source of antitoxin by nourishing them with the specific pathogenic micro-organisms. It may thus be that the ferments may be substituted for animals as a source of immunising material.

At the conclusion of the exhibition the Executive Committee of the Medical, Surgical, and Hygienic Exhibitors Association presented Mr. Fred. Weiss, the President, with a beautiful silver bowl; Mr. F. J Rebman, the honorary treasurer, with a solid silver tea-set and a case containing solid silver salt-cellars, pepper-boxes, and mustard-pot; and Mr. H. Blau, the honorary secretary, with a handsome cheque for the arduous services which each and all had rendered in the formation of the exhibition, which proved most successful from every point of view.

## THE ROYAL MILITARY TOURNAMENT.

THE Royal Military Tournament closed on June 4th, after what we think will have been one of the most successful seasons since the inception of the tournament nineteen years ago. Year by year this annual military display has increased until it has outgrown the limits of its cradle. On several occasions we have pointed this out, but for some reason, probably a sentimental one, the committee still cling to the original home of the tournament in Upper-street, Islington. That there should be a reluctance to remove the tournament from the scene of its past successes we can quite understand, but is there not a debt owing to the public who, after all, have made the tournament a success? Besides, a larger building might be made to render larger profits, and the military charities which receive the proceeds of the tournament would be the gainers. We have no doubt that the authorities in charge of the tournament have done all that lies in their power to render the building as sanitary and as convenient for the public and the troops as they can, but without entirely reconstructing the building it would be absolutely impossible to make it both sanitary and safe for the public and for the troops. For a detailed account of many of the imperfections of the building from this point of view we must refer our readers to the articles which we have published in past years, but there is one point to which we should like to call attention and which if not remedied will sooner or later be the cause of a serious catastrophe. As those of our readers who have visited the tournament know, the arena in which the performances and contests take place is surrounded by tiers of seats beneath which is the space allotted to those of the general public who can only afford the popular shilling. Around the arena outside these seats and the space allotted to the "shilling" portion of the public stalls are fitted up for horses and only a narrow gangway is left for the performers to congregate with their heavy guns, horses, or both, immediately preceding their entrance to the arena. What if a panic should take place among the public from any cause? That such a thing might take place when least expected the history of panics in public buildings conclusively shows. We have suggested that Olympia could become the home of the tournament, but if there are objections to this place other sites in London might be rented for the purpose—for instance, the Alexandra Palace, the Crystal Palace, or Wembley Park. But whether or not any of these places are suitable one thing is certainly clear, and that is that the Royal Military Tournament has entirely outgrown the limits of the Royal Agricultural Hall at Islington.

Whoever is responsible for the stable arrangements at the Agricultural Hall we must congratulate on having done the best he could with limited possibilities to improve the sanitary arrangements in his own department, which are excellent. The hospital in case of accidents was in the charge of Surgeon-Major Alexander, who was assisted by Surgeon-Captain Tate.

## THE ROYAL COMMISSION ON THE METROPOLITAN WATER-SUPPLY.

THE twenty-third meeting of the Royal Commissioners was held in the Council Chamber of the Westminster Town Hall on Monday, May 23rd. With the exception of Mr. Cripps, Q.C., all the Commissioners were present. Sir John Dorrington and Sir George Barclay Bruce were not present after the luncheon adjournment. The whole of the sitting was occupied by the cross-examination of Sir Alexander Binnie, engineer-in-chief to the London County Council. The witness laid before the Commissioners estimates giving the relative cost of obtaining an increased supply of water from the Thames and from Wales. The information has been

condensed by Sir Alexander Binnie into the smallest possible space and is as follows:—

*Cost of obtaining from the Thames by the Staines scheme the 114½ million gallons, being the difference between the total 300 million gallons of the Staines scheme and the 185½ million gallons sanctioned taking of water from the Thames by the companies up to date.*

| | £ |
|---|---|
| Cost of obtaining 300 million gallons from the Thames with a minimum flow of 250 million gallons at Teddington ... ... ... ... ... ... ... | 18,039,945 |
| Cost of obtaining 185½ million gallons from the Thames with a minimum flow of 250 million gallons at Teddington ... ... ... ... ... ... ... | 7,336,375 |
| Difference between the above estimates, being the cost of obtaining 114½ million gallons from the Thames when the minimum is taken at 250 million gallons at Teddington ... ... ... ... ... ... ... | 10,703,570 |
| Cost of obtaining 300 million gallons from the Thames with a minimum flow of 200 million gallons at Teddington ... ... ... ... ... ... ... | 15,589,990 |
| Cost of obtaining 185½ million gallons from the Thames with a minimum flow of 200 million gallons at Teddington ... ... ... ... ... ... ... | 4,705,185 |
| Difference between the above estimates, being the cost of obtaining 114½ million gallons, from the Thames when the minimum is taken at 200 million gallons at Teddington ... ... ... ... ... ... ... | 10,884,805 |

For the purpose of forming a comparison between the Staines scheme and the Welsh gravitation project nothing is included in the above estimates for distribution mains and pipes or filters, which it is assumed are common to any scheme of extension, nor is anything included for law, parliamentary, or engineering charges.

*Cost of obtaining by the Welsh gravitation scheme the 114½ million gallons, being the difference between the total 300 million gallons of the Staines scheme and the 185½ million gallons sanctioned taking of water from the Thames by the companies up to date.*

| | £ |
|---|---|
| Yrfon yield, 121 million gallons per day. | |
| Yrfon reservoir and head-works ... ... ... ... | 1,850,000 |
| Aqueduct, 162 miles in length, composed of 117 miles of covered conduit and tunnel to carry 200 million gallons a day and 45 miles of pipe to carry 114 million gallons a day ... ... ... ... ... ... ... | 6,867,500 |
| Terminal works at Elstree for 114 million gallons per day exclusive of filters... ... ... ... ... ... | 1,314,750 |
| Total ... ... ... ... ... ... ... ... | 10,032,250 |

*Estimate for bringing from Wales 147 million gallons a day.*

| | | |
|---|---|---|
| Yrfon yield ... ... ... ... ... | 121 | million gallons a day. |
| Towy yield ... ... ... ... ... | 44 | ,, ,, |
| | 165 | ,, ,, |

| | £ |
|---|---|
| Yrfon and Towy reservoirs and head works ... ... | 2,190,000 |
| Aqueducts, 162 miles in length, composed of 117 miles of covered conduit and tunnel and 45 miles of pipes, the whole to convey 200 million gallons a day ... ... | 7,760,000 |
| Terminal works at Elstree, £1,911,000, + filters, £1,653,750... ... ... ... ... ... ... ... | 3,564,750 |
| Total for works ... ... ... ... ... ... | 13,514,750 |
| Law and Parliamentary charges ... ... ... ... | 597,250 |
| Total ... ... ... ... ... ... ... ... | 14,112,000 |

*Additional charges required to increase the supply from 147 million gallons to 200 million gallons a day.*

Llangurig reservoir to yield 43 million gallons a day which, added to the 165 millions in the previous instalment, brings the total up to 208 million gallons.

| | £ |
|---|---|
| Llangurig reservoir and headworks ... ... ... ... | 650,000 |
| Conduit from Llangurig to Yrfon ... ... ... ... | 277,000 |
| Addition to headworks and filters to Elstree ... ... | 1,286,000 |
| | 2,213,000 |
| Additional law and Parliamentary charges ... ... | 221,000 |
| | 2,434,000 |
| Add former estimate for 147 million gallons a day ... | 14,112,000 |
| Total ... ... ... ... ... ... ... ... | 16,546,000 |

In answer to Sir GEORGE BARCLAY BRUCE the witness said that in his opinion whether the water companies' undertakings remained in their present form or were transformed to a public body it would be necessary to go beyond the Thames Valley for an additional supply of water.

In answer to Mr. MELLOR the witness said that a point in favour of commencing the Welsh scheme soon was that if the water rights were not secured for London they might be taken by some other authority.

In answer to Major-General SCOTT the witness said that in dealing with the water of the Thames, which was liable to contamination in consequence of the large population which lived on its banks, it became a serious matter when the filters were infected with microbes. The presence of microbes indicated the decay and decomposition of organic matter.

Mr. PEMBER, Q.C., on behalf of the water companies, cross-examined the witness at some length with regard to the size of the reservoirs which he had said would be necessary at Staines. The counsel contended that on three points the estimate was too great: (1) That an unnecessary amount of storage capacity was allowed for reservoirs which were out of use for cleansing purposes; (2) that an excessive amount was allowed for "bottom water" impurities; and (3) that too much was allowed for evaporation. The amount allowed for "bottom water" was about 28 per cent., and the witness computed that two reservoirs out of fourteen would be out of use for cleansing purposes. Counsel questioned the witness with regard to the service reservoirs now in use by the companies, and contended that one-sixth of the water-supply, if the Welsh scheme were carried out, would have to be pumped into the high service reservoirs. Mr. Pember cross-examined the witness at some length with regard to the diagrams which he had put in to show how the Staines reservoir scheme would have worked out had it been already carried out and applied to the flow of the river during the year 1893. The witness complained that the questions asked were meant to confuse, but on this point counsel only succeeded in showing that if the tables had been made from different data the result would have been different.

Mr. RICKARDS, on behalf of the Chelsea Company, cross-examined the witness with a view to demonstrating that when the company did not draw their full authorised amount on some day it was not because the water was "bad," but because when they did not require their full authorised amount they took the water when it was clear, because the less turbid it was the less was the cost of filtration. Reference was made to Dr. Frankland's report that an excess of microbes was found in the water of the Chelsea Company in June, 1896, and the CHAIRMAN asked whether a representative of the Southwark and Vauxhall Company was present to explain why water containing 1600 microbes per cubic centimetre had been sent out by them.

At the end of the meeting Sir ALEXANDER BINNIE sketched the method in which he would divide the water between London and the county of Surrey in case the London County Council bought the water companies' undertakings and transferred part of them to the outlying authorities.

The twenty-fourth sitting of the Royal Commissioners was held on Monday last, June 6th, at the Guildhall, Westminster. The whole of the sitting was occupied by the cross-examination of Sir Alexander Binnie by Mr. Pember, Q.C., Mr. Pope, Q.C., and Mr. Lewis Coward on behalf of the Water Companies, and by Lord Robert Cecil on behalf of the Hertfordshire County Council, and by his re-examination by Mr. Freeman, Q.C., on behalf of the London County Council.

## VITAL STATISTICS.

### HEALTH OF ENGLISH TOWNS.

IN thirty-three of the largest English towns 5417 births and 3611 deaths were registered during the week ending June 4th. The annual rate of mortality in these towns, which had been 16·4 and 16·5 per 1000 in the two preceding weeks, further rose last week to 16·8. In London the rate was 16·1 per 1000, while it averaged 17·2 in the thirty-two provincial towns. The lowest rates in these towns were 9·9 in Derby, 10·6 in Bolton, 11·1 in Brighton, and 11·3 in Croydon; the highest rates were 22·7 in Liverpool, 23·1 in Gateshead, 24·3 in Newcastle-upon-Tyne, and 24·6 in Sunderland. The 3611 deaths in these towns included 389 which were referred to the principal zymotic diseases, against 380 and 400 in the two preceding weeks; of these, 136 resulted from measles, 110 from whooping-cough, 54 from diphtheria, 44 from diarrhœa, 32 from scarlet

fever, 13 from "fever" (principally enteric), and not one from small-pox. No fatal case of any of these diseases occurred last week in Swansea, in Blackburn, or in Bolton; in the other towns they caused the lowest death-rates in Brighton, Preston, and Huddersfield, and the highest rates in Manchester, Halifax, Liverpool, Bradford, and Newcastle-upon-Tyne. The greatest mortality from measles occurred in Manchester, Halifax, Bradford, and Newcastle-upon-Tyne; and from whooping-cough in Bradford, Newcastle-upon-Tyne, and Sheffield. The mortality from scarlet fever and from "fever" showed no marked excess in any of the large towns. The 54 deaths from diphtheria included 30 in London, 4 in Liverpool, and 2 each in West Ham, Portsmouth, Cardiff, Birkenhead, Barnley, Leeds, and Gateshead. No fatal case of small-pox was registered last week in any of the thirty-three large towns, and only one case of small-pox was under treatment in the Metropolitan Asylums Hospitals on Saturday last, the 4th inst. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2207, against 2247, 2241, and 2195 on the three preceding Saturdays; 220 new cases were admitted during the week, against 229, 223, and 256 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 177 and 216 in the two preceding weeks, further rose last week to 226, but were 49 below the corrected average. The causes of 47, or 1·3 per cent., of the deaths in the thirty-three towns were not certified either by a registered medical practitioner or by a coroner. All the causes of deaths were duly certified in Bristol, Cardiff, Nottingham, Leeds, and in thirteen other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Leicester, Liverpool, and Huddersfield.

### HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the three preceding weeks from 19·8 to 21·4 per 1000, further rose to 23·0 during the week ending June 4th, and was 3·2 per 1000 above the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 18·7 in Perth and 18·9 in Aberdeen to 26·2 in Paisley and 27·2 in Greenock. The 694 deaths in these towns included 43 which were referred to whooping-cough, 34 to measles, 23 to diarrhœa, 6 to "fever," 4 to scarlet fever, and 2 to diphtheria. In all, 112 deaths resulted from these principal zymotic diseases, against 104 and 91 in the two preceding weeks. These 112 deaths were equal to an annual rate of 3·7 per 1000, which was 1·9 above the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of whooping-cough, which had been 31 in each of the two preceding weeks, rose to 43 last week, of which 25 occurred in Glasgow, 5 in Paisley, 4 in Dundee, and 4 in Aberdeen. The 34 deaths from measles showed a slight further increase upon the numbers recorded in recent weeks, and included 19 in Glasgow, 10 in Aberdeen, and 5 in Edinburgh. The deaths referred to different forms of "fever," which had been 6, 4, and 13 in the three preceding weeks, declined again to 6 last week, of which 5 were recorded in Glasgow. The mortality from scarlet fever and from diphtheria showed a further decline from that recorded in recent weeks. The deaths from diseases of the respiratory organs in these towns, which had been 119 and 125 in the two preceding weeks, further rose to 133 last week, and were 13 above the number in the corresponding period of last year. The causes of 40, or nearly 6 per cent., of the deaths in these eight towns last week were not certified.

### HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 24·0 and 23·1 per 1000 in the two preceding weeks, further declined to 19·7 during the week ending June 4th. During the past four weeks the rate of mortality in the city has averaged 22·3 per 1000, the rate during the same period being 15·9 in London and 19·5 in Edinburgh. The 132 deaths registered in Dublin during the week under notice showed a decline of 23 from the number in the preceding week, and included 10 which were referred to the principal zymotic diseases, against 10 and 14 in the two preceding weeks; of these, 5 resulted from whooping-cough, 2 from "fever," 2 from diarrhœa, 1 from scarlet fever, but not one from measles, diphtheria, or small-pox. These 10 deaths were equal to an annual rate of 1·5 per 1000, the zymotic death-rate during the same period being 2·1 in London and 3·0 in Edinburgh. The fatal cases of whooping-cough, which had been 1 and 3 in the two preceding weeks, further rose to 5 last week. The deaths referred to different forms of "fever," which had been 4 and 3 in the two preceding weeks, further declined to 2 last week. The mortality from scarlet fever corresponded with that recorded in the preceding week. The 132 deaths in Dublin last week included 22 of infants under one year of age and 36 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed a decline from those recorded in the previous week. 8 inquest cases and 6 deaths from violence were registered; and 46, or more than a third, of the deaths occurred in public institutions. The causes of 9, or nearly 7 per cent., of the deaths in the city last week were not certified.

## THE SERVICES.

### NAVAL MEDICAL SERVICE.

STAFF-SURGEON FRANCIS A. JEANS to be Fleet-Surgeon. The following qualified candidates for the Naval Medical Service have been appointed Surgeons:—Henry Cadman Whiteside, Robert Lumley Dickinson, Herbert Wells Bayly Shewell, John Martin, Christian Beverly Fairbank, Francis Frederick Lobb, Gerald Burton Brown, Strafford Dobrée Tollemache Halliday, John Gallagher Corry, Lancelot Bew Todd, Harold John Chater, Reginald St. George Smallridge Bond, Charles Clarke Macmillan, Fred Claude Bromley Gittings, Ramsey Martyn Richards, Henry Edward Raper, Alan Grant Eastment, George Ernest Duncan, James George Watt, and George Edward Glynn.

The following appointments are notified:—Staff-Surgeons: Samuel W. Vasey to the *Barfleur;* Harold G. T. Major and Anthony Kidd to the *Diadem;* and Charles W. Sharples to the *Furious*. Surgeons: Malcolm Cameron to the *Mars;* James W. O. Underhill and Robert V. Gilmour to the *Blenheim;* John E. H. Phillips to the *Tamar;* and James D. S. Milln to the *Cæsar*.

### ARMY MEDICAL STAFF.

Surgeon-Major-General Thomas Walsh is placed on retired pay. Surgeon-Colonel John W. Maxham, M.D., to be Surgeon-Major-General, vice T. Walsh. Brigade-Surgeon-Lieutenant-Colonel James F. Supple to be Surgeon-Colonel, vice J. W. Maxham, M.D., Surgeon-Lieutenant-Colonel Henry Charlesworth to be Brigade-Surgeon-Lieutenant Colonel, vice J. F. Supple.

### INDIA AND THE INDIAN MEDICAL SERVICES.

The services of Surgeon-Captain Gray (Bengal) are replaced at the disposal of the Chief Commissioner of the Central Provinces. The services of Surgeon-Major Narendra Prasanna Sinha (Bengal) are replaced at the disposal of the Government of Bengal. The services of the undermentioned officers are replaced at the disposal of the Government of the North-Western Provinces and Oudh: Surgeon-Major Baker (Bengal), Surgeon-Captain Moorwood (Bengal), Surgeon-Captain Fischer (Bengal), and Surgeon-Captain Crawford (Bengal). The services of the undermentioned officers are replaced at the disposal of the Government of the Punjab: Surgeon-Captain Clark (Bengal), Surgeon-Captain Coleman (Bengal), and Surgeon-Captain Buist Sparks (Bengal). The services of the under-mentioned officers are replaced at the disposal of the Government of Madras: Surgeon-Captain Donovan (Madras) and Surgeon-Captain Robert King Mitter (Madras). The services of the undermentioned officers are placed temporarily at the disposal of the Government of the North-Western Provinces and Oudh: Surgeon-Captain Austen Smith (Bengal), Surgeon-Captain Birdwood (Bengal), and Surgeon-Lieutenant Stevenson (Bengal).

### VOLUNTEER CORPS.

*Artillery:* 6th Lancashire: David Franklin Williams to be Surgeon-Lieutenant. *Royal Engineers:* 1st Devonshire and Somersetshire: Surgeon-Captain G. B. Fraser to be Surgeon-Major. *Rifle:* 1st Volunteer Battalion the Lincolnshire Regiment: Surgeon-Lieutenant J. W. Jessop to be Surgeon-Captain. 3rd (Cambridgeshire) Volunteer Battalion the

Suffolk Regiment: Arthur William Clark to be Surgeon-Lieutenant. 3rd Volunteer Battalion the Welsh Regiment: John Richardson Armstrong to be Surgeon-Lieutenant. 1st London: Surgeon-Lieutenant-Colonel W. R. Smith, from the 3rd Volunteer Battalion Royal West Kent Regiment, to be Surgeon-Lieutenant-Colonel. 7th Volunteer Battalion the Royal Scots (Lothian Regiment): Second Lieutenant William Robert Martine resigns his commission and is appointed Surgeon-Lieutenant. 2nd Volunteer Battalion the Northumberland Fusiliers: Lieutenant Andrew William Messer resigns his commission, and is appointed Surgeon-Lieutenant.

### VOLUNTEER INFANTRY BRIGADES.

East Yorkshire Brigade: Surgeon-Captain J. Porter, 2nd Volunteer Battalion the Princess of Wales's Own (Yorkshire Regiment), to be Brigade-Surgeon-Lieutenant-Colonel on being appointed Senior Medical Officer to the Brigade.

### SICKNESS AND MORTALITY IN THE GERMAN NAVY.

IN Germany the statistical returns bearing on the health of the navy are calculated from April 1st in one year to March 31st in the next. The following figures, compiled by Dr. Globig, refer to the biennium 1893-95. Average strength: afloat, 10,886; ashore, 9172; total, 20,058. Admissions to hospital, 873·5; invalided from the service, 38·2; died, 4·4; number of men constantly sick, 36·1; all per 1000 of strength per annum. Average duration of each case in days, 13·6. Of the total deaths 48 per cent. were due to accidents and 6·2 per cent. to suicide. The principal causes of death from disease were as follows: tuberculosis, 21; inflammation of lungs and pleurisy, 15; typhoid fever, 7; cardiac affections, 6. 25 men were killed by a boiler bursting on board the *Brandenburg* and 10 by an explosion of gunpowder on board the *Baden*. 40 men lost their lives by drowning and 6 by falls from the rigging. In the first twelvemonth under report 55 cases of typhoid fever were treated, 43 on the American station, but in the second the number fell to 17. There were 7 deaths from this disease during the biennium, 2 of the men who died having been convalescent from yellow fever when they were attacked. Malarial fevers caused 723 admissions, 18·2 per 1000, and 2 deaths, the latter occurring on the African station. 4 cases of yellow fever occurred on board the *Alexandrine* at Rio de Janeiro, 1 proving fatal. A fifth case showed itself nineteen days after the departure of the vessel, the patient having formed one of the boat's crew which last communicated with the shore. This outbreak was the first manifestation of yellow fever in the German navy since 1870. Every man-of-war in the harbour at Rio was attacked with the exception of one Portuguese cruiser and it was noted that only men who had landed for night duty contracted the disease. 4 cases of cholera were treated in a vessel off Valparaiso with one death. Acute rheumatism seems to have been very prevalent, especially in the Mediterranean, where the admissions amounted to 38·5 per 1000 of strength; 817 cases in all—20·3 per 1000—were treated. There was also a considerable increase over previous years in disorders of the circulatory apparatus. Sunstroke is said to have occurred 29 times, but only 2 cases were fatal. Amongst the diseases of the nervous system there were 50 cases referable to cerebral causes, 52 of epilepsy with 2 deaths, and 17 of hysteria. Affections of the digestive system are steadily diminishing in frequency, but afloat 2 admissions per 1000 of strength were said to be referable to faulty provisions. On shore the proportion was about 0·4 per 1000 as usual. There was no scurvy. 24 cases of dysentery occurred in African waters; all were slight. Off the Chinese coast there were 3 very severe cases requiring exceptionally long treatment but eventually they recovered. Hepatic affections were apparently trivial, no cases of hepatic abscess are noted and the fleet was likewise entirely free from small-pox throughout the period. The peculiar affection known as "stokers' cramp" temporarily disabled a man on the *Bayern*. The cause was said to be indigestion provoked by too copious draughts of an acidulated beverage. The admissions on account of venereal disease amounted for the entire force to 113·5 per 1000 per annum, but on the China station they rose to 504 per 1000. Invaliding is no longer chiefly due to diseases of the eye, the first place being now occupied by cardiac affections and the second by affections of the locomotory system (flat feet, &c.). Eye diseases come third, and fourthly affections of the ear. In the report under notice the comparative merits from a hygienic point of view of the new type of ironclad, as represented by the *Brandenburg*, and the old, or *Baden* type, are for the first time considered, the conclusion being by no means favourable to the first-named. It is said that in the more modern war ships diseases which owe their origin to cold and draughts, such as rheumatism, bronchitis, tonsillitis, &c., are much commoner than in the older vessels and also that accidental injuries and heat stroke occur far more frequently.

### WOUNDED BRITISH SOLDIERS IN EGYPT.

Two convoys have arrived at Cairo from the Soudan consisting of 64 wounded men, only one of whom was wounded by a spear. Most of the injuries were caused by Snider or Martini-Henry rifles, or by a few slugs from elephant guns, but, unfortunately, a few of the wounds were also caused by the Lee-Metford rifles of our own men. Large numbers of our wounded were shot in the legs and feet and this is said to have been due to Mahmoud's precaution of causing his men to fire below fixed beams, also a little to the fact that the enemy reserved his fire until the Anglo-Egyptian force was close to his entrenchment. Each man going into action carries his own antiseptic dressing with him and this was applied in most cases by the five surgeons who accompanied the troops on the day of battle or by the orderlies acting under them. Dry dressings were used and later the wounds were syringed out with carbolic or sublimate and then again dry dressed with iodoform and cyanide gauze. The dressings were generally left for three days, but were carefully watched daily to see if there were any signs of leakage. In passing it may be mentioned that in the Citadel Hospital, where these men are lodged, there is no adequate operating theatre, in spite of the many requests which have been made for one in the fifteen and a half years during which the hospital has been in British hands. The room at present used for operations has an old wooden floor, septic walls and ceilings, and very unsatisfactory windows, while the operating table, which was supplied from England last year, is an obsolete wooden one of which Her Majesty's Government ought to be thoroughly ashamed.

### QUARANTINE MEASURES AGAINST THE PLAGUE IN MADAGASCAR.

The *Archives de Médecine Navale* for May contains a note by Dr. Duville, medical officer of the Naval Department in the Indian Ocean, on the measures to be adopted in order to safeguard Madagascar from the bubonic plague. Every year, he says, a large number of native *boutres* (buggalows) arrive from Bombay during the north-eastern monsoon, the passage lasting from thirty to forty days. These vessels, many of which are of 400 tons burden, ought all to be carefully inspected, but unfortunately they frequent a variety of anchorages and Majunga is the only port where there is a lazaret. To meet the difficulty Dr. Duville proposes to arm the ubiquitous custom-house officials with sanitary powers, and thus enable them to protect the public health as well as the revenue. The *boutres* with clean bills of health should be kept in quarantine for from twelve to twenty-one days according to the time occupied on the voyage from the infected area, but if any of them should be found to be contaminated it would be worse than useless to play at disinfection seeing that effective means of applying it do not as yet exist. Whenever there is reason to suspect the presence of plague germs the implicated *boutre* should be promptly isolated and the whole of its contents forthwith burnt (*brûler séance tenante tout ce qu'il contient*). The note concludes with the information that a decree, dated March 31st, 1897, has just been promulgated in Madagascar containing regulations for the maritime sanitary police of the colony.

### THE SOUDAN CAMPAIGN.

The Khalifa's forces at Shabluka are stated to have withdrawn recently to El Boga, which is some forty miles distant from Khartoum and inland from the river, so that the Nile is practically left clear to Khartoum. Shabluka was a fortified, defensible position commanding the navigable channel of the Nile. According to present arrangements it is probable that some 20,000 British troops will take part in the Anglo-Egyptian advance on Khartoum in the autumn, probably late in August. Beyond Berber to the south there are often heavy falls of rain during parts of July and August. The troops have been operating hitherto in a nearly rainless country. We regret to learn that a certain amount of sickness—climatic and enteric fevers and dysentery chiefly—still continues to prevail among the soldiers of the Soudan force.

### THE BATTLE OF THE ATBARA.

The *Times* of Wednesday last states in its usually well-informed "Political Notes" that "it is alleged that the medical department attached to the British brigade at the battle of the Atbara were entirely unprovided with chloroform or anæsthetics for the performance of operations on the battlefield, and, further, that owing to the lack of light ambulances the only way of carrying the wounded after the cavalry reconnaissance before the battle of the Atbara was by tying them on to gun-limbers. Amongst military members of the House of Commons the view prevails that the matter is of sufficient importance to warrant the appointment of a special court of inquiry."

### THE TRANSPORT OF SICK AND WOUNDED TROOPS BY RAIL.

Our military readers may be glad to have their attention directed to an elaborate and interesting paper by Surgeon-Captain Melville, A.M.S., published in the May number of the *Journal of the Royal United Service Institution*, descriptive of the continental regulations for the transport of sick and wounded by rail.

# Correspondence.

"Audi alteram partem."

## HOSPITAL SUNDAY.

*To the Editors of* THE LANCET.

SIRS,—Though I have had occasion to make various demands upon your courtesy in the cause of charity during the last few weeks I again solicit your assistance to allow me to draw public attention to the fact that Sunday next is "Hospital Sunday," when, for the twenty-sixth year in succession, collections will be made in all the churches and chapels of the metropolis in behalf of the hospitals and dispensaries of this great city.

At this period of the history of the Hospital Sunday Fund it is fortunately unnecessary to refer in any detail to its aims and objects. These are now so well understood and so widely appreciated that it seems only requisite to mention that there are nearly 200 hospitals, convalescent homes, and dispensaries seeking to participate in this year's collections. It is estimated that quite £100,000 will be required to make up the difference between the receipts and expenditure of these most valuable institutions and to provide for that smaller but equally useful work—which the council themselves undertake—of issuing surgical appliances to the crippled and afflicted poor.

Many appeals have recently been made for the larger hospitals, and these, I rejoice to say, have been liberally responded to, but one merit of the distribution of the Hospital Sunday collection—which it shares with the Prince of Wales's Hospital Fund—is that it enables the public to contribute to those smaller and more modest institutions which are doing excellent and meritorious work in their respective localities. All the hospitals participate, according to their needs and difficulties, in the Hospital Sunday Fund, and many of the minor charities look to this annual help to compensate them for the reduction of income and legacies from which they suffer through the pressure of more urgent claims.

Of course, the great bulk of the money raised for the fund is, as it ought to be, collected at places of worship on "Hospital Sunday," but there are many contributors who, whether from absence from town on the Sunday or some other reason, always prefer to send their personal donations direct to the Mansion House. These contributions materially help to swell the fund, and are for that reason very acceptable. I shall cordially welcome any such donations.

I desire to thank in advance those who will preach for the fund on Sunday and those who respond to their appeal, and I sincerely trust that this year's collection may equal, if not exceed, the splendid results which have been recorded throughout the history of the fund, but especially in recent times. I am, Sirs, your obedient servant,

H. D. DAVIES, Lord Mayor.

Mansion House, London, June 9th, 1898.

## "A MEDICAL GRADUATES' COLLEGE AND HOSPITAL."

*To the Editors of* THE LANCET.

SIRS,—The prototype of the person who would find the money to establish a new general hospital in central London for post-graduate purposes is not, I think, the wise "Johns Hopkins," but rather someone whose guileless trust would only be equalled by his ignorance both of what is good for patients and what is needed by post-graduates. Why should such a hospital be central at all? If it is complete its students will not want to run away from it to all the other London hospitals, nor will they want to lodge at Claridge's or the Albemarle. As for evening amusements there already exist within twenty-five minutes' cab drive of the theatres general hospitals without undergraduates but as richly supplied with clinical material and as ably officered as any post-graduate hospitals in either Europe or America. It is to them, if to any, that a Johns Hopkins willing to build a post-graduate college could wisely turn his attention. The idea of a central post-graduate school is greatly based on the delusion that the most famous men in the profession would teach in it. Such men do not give post-graduate courses anywhere. The Jenners and Pagets of the day have rarely had time to continue their systematic lectures. Post-graduate courses of many demonstrations crowded into a few weeks can only be given by men with sufficient time to spare. Odd lectures are but little wanted.

As for the composite scheme of eight united hospitals with schools it is necessarily doomed to failure by the fact that qualified medical men are too polite to push before students and not tall enough to stand behind them; besides, they do not want elementary instruction. And it would be unfair to the patients to have them doubly exhausted by the examinations of the qualified men in the morning and those of the younger students in the afternoon.

Why should the schools wish to compete in post-graduate teaching with the institutions which are free to fulfil such a duty properly? The united hospitals scheme is scarcely more likely to have a long and useful life than a many-bodied human fœtus. Perhaps any independent London post-graduate school and hospital is expected to "peep about under its" eight "legs to find itself a dishonourable grave." Hospitals like the West London and the Great Northern, for example, must be used for study in some way or other. Do the present London schools for undergraduates consider their number, twelve, is not sufficient? If they think, as they must do, that it is more than enough, let them unite among themselves not to interfere with post-graduate tuition, but to do their undergraduate teaching a little better.

I am, Sirs, yours faithfully,

June 7th, 1898. C. B. KEETLEY.

*To the Editors of* THE LANCET.

SIRS,—Your leading article on a proposed post-graduate hospital and college in the last issue of THE LANCET is one of great interest, since the need of some post-graduate school in London is apparent. As you state post-graduate teaching is practically impossible at the large London schools, since not only is a different class of teaching required from that useful to students, but practitioners do not like to receive instruction at the same clinic with students for many reasons. The difficulties in the way of the proposed scheme for a post-graduate college connected with a hospital whose only object is clinical instruction and not treatment must be almost insuperable. Under these circumstances, might I suggest that the development of an existing institution would supply the need? For some years past the nucleus of a post-graduate college has existed at the West London Hospital, Hammersmith-road, W. Courses of lectures have been given and a considerable number of post-graduates from all parts of the world have attended the hospital practice. The practice of this hospital is well adapted to the needs of post-graduates, since it is reserved for them and senior students, and the staff have now had considerable experience in the class of teaching which these gentlemen require. At the same time, as the number of occupied beds in the hospital is being increased to 150, better accommodation for post-graduate students is being arranged. There will be a large class-room, a library, and a writing-room; a pathological and bacteriological laboratory in which the post-graduates may work has also been established. We therefore venture

to hope that these arrangements will meet the needs of post-graduates in London.

I am, Sirs, yours faithfully,

L. A. BIDWELL, Dean.

West London Hospital, W., June 6th, 1898.

## "TWICKENHAM AS A HEALTH RESORT."

*To the Editors of* THE LANCET.

SIRS,—The attention of the council has been drawn to the article which appeared in THE LANCET of May 21st under the above heading, and in justice to a district which has for so long a time maintained its good reputation as regards its sanitary condition and which is verified by an extremely low zymotic death-rate and also a very low general death-rate (average of 13 per 1000 for the past ten years) we desire on behalf of the council to say that the complaint of your correspondent was to a small extent justifiable, but the hole in which the house refuse was thrown was at least 12 ft. deep, and the refuse has been gradually covered with good earth to a depth of several feet. No houses could have been built over this site, it being at the bottom of the garden. The council firmly believe that no possible nuisance can arise in the future from the deposit of the refuse referred to. The statement that houses have already been built upon sites upon which house refuse has been deposited is absolutely untrue.

We can assure you and the public at large that the council are quite as anxious for the continued good health of the district as your correspondent.

We are, Sirs, your obedient servants,

MARTINDALE C. WARD, M.D., J.P., Chairman.
W. MARSTON CLARK, D.P.H., Medical Officer of Health.
H. JASON SAUNDERS, Clerk.

Twickenham Urban District Council, June 1st, 1898.

*** We are satisfied as to the substantial accuracy of the statement upon which our annotation was founded, and think that the Twickenham Urban District Council will do well to ensure their dust contractor's obedience to the orders of their medical officer. Otherwise, however anxious they may be for "the continued good health of the district" they will find Twickenham involved in serious sanitary troubles.—ED. L.

## THE NATIONAL SOCIETY FOR THE EMPLOYMENT OF EPILEPTICS.

*To the Editors of* THE LANCET.

SIRS,—The rapid development of the colony established by the National Society for the Employment of Epileptics at Chalfont St. Peters has led to the existence of a widespread impression that the society is in a state of extreme prosperity, and this impression, though unfortunately erroneous, has been found most prejudicial to the movement. I am therefore desired by H.R.H. the Duke of York, the President of the society, to make known its claims to sympathy and support, its present position, and its immediate needs, which are very pressing and urgent.

Epileptics, though capable of work, are prevented by the nature of their disease from retaining employment under ordinary conditions. The object of the colony is to provide them with a home amidst healthy surroundings with suitable medical treatment, and above all with opportunities for the exercise of their industry. In a Report on the Care of Epileptics published by the Charity Organisation Society, in which the establishment of epileptic colonies is warmly advocated, it is estimated that there are in this country about 5000 persons in urgent need of such provisions as the Chalfont colony affords. But even when the additional homes now being built there are completed and opened the number of "colonists" actually provided for will be somewhat less than 200. It is evident, therefore, that the colony is, comparatively speaking, still in its infancy and that much help and effort will be needed before its ultimate growth will be attained. In the meantime, however, the necessity for increasing the accommodation has so weighed upon the minds of our principal supporters that they have from the first given their contributions specifically and inexorably for the building of new homes, every one of which has, however, necessarily involved considerable outlay over and above the cost of building. The result is that the furnishing of homes and other capital expenditure have thrown so severe a strain upon the general funds of the society that these are now quite exhausted, and works essential to the safety of the colony cannot be carried out. One home recently completed is standing empty for lack of furniture; other homes now being built will shortly be in the same position. Water is still being procured and the sewage of the colony disposed of by primitive methods quite unsuited to the increasing population. A water and a sewage scheme have been prepared and will be executed as soon as funds are forthcoming. Another urgent requirement, in order to ensure economy of management, is an administrative building with central kitchens and other offices for the whole of the colony. For these purposes about £7000 are required. This sum represents an immediate need, the importance of which is great in proportion to the amount, for it is a necessary complement to the very noble work already accomplished.

Of all the more serious forms of natural affliction epilepsy is probably the most prevalent; in the country and in the towns it is equally rife, and it spares no class of the community. It would seem therefore that it should appeal to almost universal sympathy; yet hitherto the supporters of the National Society have been distinguished rather by their individual generosity than by their numerical importance. For its permanent stability it is much to be desired that the society should stand as it were upon a broader basis, and members of all classes are therefore, according to their respective means and opportunities, cordially invited to participate in and support this very humane and necessary work.

Contributions will be most gratefully received and acknowledged by the Secretary, Mr. G. Penn Gaskell, at the society's offices, 12, Buckingham-street, Strand, W.C., or by the bankers, Messrs. Hoare & Co., 37, Fleet-street, E.C. Cheques and P.O.O. should be made payable to the hon. treasurer, Mr. H. N. Hamilton Hoare.

I am, Sirs, yours faithfully,

E. MONTEFIORE MICHOLLS,
Chairman of the Executive Committee.

June 3rd, 1898.

## INTRATRACHEAL INJECTIONS IN PHTHISIS.

*To the Editors of* THE LANCET.

SIRS,—With reference to the misgivings expressed incidentally on p. 84 of my article on "Bronchiectasis" in Clifford Allbutt's "System of Medicine," vol. v., as to the value of this form of treatment in phthisis, Mr. Colin Campbell writes to remind me that in his paper in vol. lxviii. of the Transactions of the Royal Medical and Chirurgical Society on the Treatment of Respiratory Affections by means of Large Medicinal Injections through the Larynx he sets forth the advantages of distilled glycerine instead of oil as a vehicle and relates a series of uniformly favourable cases. Inasmuch as a wider knowledge of his improvement in the method would modify any adverse impression which might be conveyed by my article I venture to beg your kind insertion of this letter.

I am, Sirs, yours faithfully,

Curzon-street, W., June 3rd, 1898. WM. EWART.

## A CORRECTION.

*To the Editors of* THE LANCET.

SIRS,—Through my inadvertence the words "10 per cent." appear on page 1536 of THE LANCET, June 4th, 1898, lines 7 and 40. In each case the words should be *1 per cent.*

I am, Sirs, yours faithfully,

Wimpole-street, W., June 7th, 1898. WILLIAM E. BURTON.

## THE ALLEGED DEARTH OF QUALIFIED ASSISTANTS.

*To the Editors of* THE LANCET.

SIRS,—It has been stated that any principal in a provincial town except Leeds can receive thirty or forty replies to advertisement from all sorts and conditions of men. Let me inform you that such is not the case in the Midlands. I have advertised for the last eight months and placed my

want in the hands of agents in London (three agents), Birmingham, Manchester, Liverpool, Edinburgh, and Glasgow, I have offered to pay whatever salary has been asked and find a comfortable home either indoors or out, and have not received one single application, but I have received a printed form from the Medical and Scholastic Agency, which reads thus:—

Clients of the association are naturally asking our advice. Holding as we do the opinion that the present tension is likely to *increase* rather than diminish, the only practical suggestions we are able to make are:

1. In some few cases it may be possible without serious inconvenience or loss to dispense with the services of an assistant altogether.
2. It may suffice to take an unqualified man to do merely dispensing and bookkeeping.
3. To raise substantially the salary offered to the qualified assistant.
4. To take in a junior partner.

The difficulties brought upon the profession by the abrupt action of the Council are so severe and far reaching and have been so unexpectedly sudden that only time will regulate the difficulties. Meanwhile, the struggling practitioner who under present circumstances is compelled to accept small fees to make a living must struggle on as best he can, and those who have arrived at a time of life when work becomes a burden when over-taxed, and yet who have struggled hard for many years to keep the wolf from the door must, now that qualified help is so dear, be pushed on one side to make way for the new order of things. If the majority of the members on our General Medical Council were elected from the rank and file of general practitioners more sympathy would have been shown to the profession at large, as they would have been able to judge from their own experience and not to look at general practice through such rose-coloured spectacles; or, again, they would have endeavoured to protect the members of the profession by trying to stop all such practices as are carried on by chemists, botanists, bone-setters, and patent medicine dealers. There is plenty of work in this line without harassing to the extent that has been done an already overburdened, worried, and, I would say, almost despised profession. (Read what the judges' remarks are on the profession and see how the clubs and dispensaries treat their medical officers and note the skits in the public papers.) More could be written, but I have already trespassed too long.—I am, Sirs, yours truly,

A GENERAL MEDICAL PRACTITIONER.

June 6th, 1898.

## "A NEW OPERATION TABLE."

*To the Editors of* THE LANCET.

SIRS,—With reference to the letter of Messrs. Down Bros. which appeared in THE LANCET of May 7th, they state that several similar tables are in use at institutions in London and that these tables were on view at the Victorian Era Exhibition. We thereupon wrote asking them where such a table could be seen; not receiving an answer we wrote again. To neither of these communications have they had the courtesy to reply. We still maintain that we first introduced an operation table whereby heat by water is maintained all over the surface of the table; in whatever position the divided portion be placed water still remains in the sloping part as well as the horizontal. We saw the exhibit referred to at Earl's Court, but no table was then on view possessing the advantage we claim: "the hinged movement so arranged that the reservoir containing hot water is not interfered with in the least, and whatever the position of the divided table hot water is equally distributed over the whole surface, thus keeping the extremities warm as well as the body."

We remain, Sirs, your obedient servants,

May 26th, 1898. ARNOLD AND SON.

TYPHOID FEVER AT CAMBORNE.—The official report of Dr. R. Bruce Low, of the Local Government Board, on the recent outbreak of typhoid fever in the urban district of Camborne, Cornwall, and in portions of the adjoining rural districts of Redruth and Helston, has just been issued. This outbreak occurred in December and January last and there were 165 known and reported cases, the mortality being a little over 7 per cent. Dr. Bruce Low considers that the epidemic was caused by the specific pollution of the public water service; he severely condemns the sanitary condition of Camborne and Illogan, and points out the necessity for providing a satisfactory isolation hospital.

## HOSPITAL ABUSE.

(BY OUR SPECIAL COMMISSIONER.)

### XVI.—BRIGHTON.

(*Concluded from p. 1566.*)

SECOND in the number of its patients comes the Sussex County Hospital. This hospital was opened in June, 1828, and there were 1710 in-patients and 7550 out-patients, giving a total attendance of 30,847. In addition there were 3215 casualties, aggregating 13,073 attendances. The total receipts, including legacies, amounted to £13,105. Further, in connexion with this hospital there is a convalescent home at Ditchling which received 143 patients during the year. Then there is also a nursing institution, which was founded eleven years ago, and has 23 nurses in constant employment and an income of more than £1200 a year. Subscribers of half a guinea may recommend two patients, the number of recommendations of course increasing with the amount of the subscriptions. Calling on the secretary of the Sussex County Hospital to inquire what measures were taken to prevent abuse I was informed that a sub-committee of the committee of management was appointed a few years ago to deal with the question. It was then decided that the medical men in charge of the out-patient department should report suspicious cases to the secretary. Such reports, however, are but rarely handed in. When the sub-committee was first formed they took haphazard 100 letters of recommendation and made inquiries into each case. Only 4 seemed doubtful and satisfactory explanations were ultimately obtained for 2 out of these 4. This led the sub-committee to conclude that there was not much abuse. On inquiring what would be considered as constituting abuse I was told that single men earning not more than £1 a week would be admitted. This limit might be extended for a serious operation or a severe case. The wage limit for married couples was 22*s.* 6*d.* per week, which was raised to 25*s.* if they had one child, and 2*s.* 6*d.* for each additional child. The secretary thought that medical men who had very poor practices had often only themselves to blame for what might be qualified as hospital abuse. The fact was that persons with but small means did go to cheap practitioners. But poor medical men give poor drugs. What was the good, for instance, of digitalis a month old? After paying small fees for a certain time the patients came to the hospital and complained that they had derived no benefit from their treatment. As at the hospital they were given medicine of the very best quality the results were more favourable. Thus people who could afford to pay but who could pay only very small fees naturally gravitated towards the hospital. The impression did exist that at the hospital more skilful attendance and better medicine were obtained than could be expected at the hands of the cheap medical man. The sub-committee, I was told, has little or nothing to do. One of its members is a clergyman working in a very poor district and the Charity Organisation Society is willing to render any assistance required to prevent abuse, but this is rarely needed.

In spite of this optimistic view of the situation several medical men expressed their conviction that abuse did prevail at the Sussex County Hospital. For instance, a case was mentioned to me relating to a town councillor whose child, suffering from joint disease, was treated for a long time at this hospital. Another case was mentioned of a man who is in trade and who was treated for a week at the hospital. The enormous number of casualties shows that very trivial cases go to the hospital and these might well be left to the local practitioners.

Third in number of patients is the Hospital for Sick Children, which was founded twenty-nine years ago. In 1896 there were 504 in-patients and 2909 out-patients, and the total number of attendances amounted to 9589. At this hospital I was told that inquiries were made from the parents as to their income and if this exceeded from 25*s.* to 30*s.* per week they were asked to pay. The payment varied according to circumstances. There was no fixed charge and the patients were always treated no matter what payment the parents might consent to make. From what I was able to ascertain it did not seem that any effective means were employed to prevent abuse.

With regard to the Sussex Eye Hospital there are more

than 3000 out-patients and more than 120 in-patients and here the cases of abuse are even more flagrant. Some two years ago a Brighton practitioner was sent for to attend a man who had been shot in the head at Bexhill. After two days' attendance it became apparent that it was necessary to remove one of the eyes. The patient then discharged his medical attendant and was conveyed to the Brighton Eye Hospital, where the operation was performed.

While admitting that the eye does require special operative skill several practitioners urged that this was not so much the case with regard to diseases of the throat and ear. They consequently protested that there was no need for a special Throat and Ear Hospital. Yet such an institution was established at Brighton in 1878, and in 1896 there were 115 in-patients and 1195 out-patients with total attendances of 6526. At this hospital some of the patients are made to pay at the rate of 5*s*. per month as out-patients and 7*s*. per week as in-patients. The matron informed me that she always asked the patients if they were not able to pay a medical man. Some of the patients answered that they could not do so because their social position compelled them to dress well. In spite of such replies only about five or six patients were refused during the year and advised to consult as paying patients an ophthalmic surgeon.

By a careful study of the reports of the various medical charities Dr. Waring finds that whereas in 1894 no less than 38,113 recommendation tickets for the hospitals were given out, this figure had increased to 43,374 in 1896, and the population of Brighton and Hove then amounted to 152,000. But at the same time there were 14,333 persons belonging to the Provident Dispensary, the benefit clubs, and medical aid associations. Some of these organisations receive hospital tickets but most of the members are attended by their club medical officers. If to this we add also the asylum, the fever hospital, and the Poor-law infirmary it may be said that a third of the population of this prosperous town do not pay medical fees.

To cope with this grievance a public meeting was held at the Athenæum Hall on Nov. 5th last, and it was decided that a committee should be appointed to investigate the manner in which the charities of the town were managed. A provisional committee met for the first time on the 11th of that month. A letter was then addressed to all the medical charities, including the dental and homœopathic hospitals, the Brighton Medical Society, and the Charity Organisation Society, asking them each to send two delegates so as to form a general committee which would deal with the question of hospital abuse. The result was most discouraging, nearly all the hospitals refusing to send delegates. Nevertheless, the provisional committee has continued its work, though its action is greatly impeded through want of support from the hospitals. The committee at present consists for the most part of private practitioners and delegates from the Charity Organisation Society and the Poor-law guardians. In any case it forms a nucleus where information can be gathered and agitation organised. Discussing this matter with a medical man who has a large general practice he thought it was not possible to establish a hard-and-fast rule to prevent hospital abuse, but that a periodical agitation did a great deal of good, for it awakened a moral sense and prevented people transgressing out of ignorance or carelessness. He seemed to think that the means actually employed to prevent abuse were so ineffective that anyone who chose could go to the hospital. If, however, the fact that this was wrong was constantly brought before the public by means of an agitation a larger number of persons would hesitate to do so. Therefore Dr. Waring and the committee in question were rendering a great service. Among the various complications connected with the question of hospital abuse there was the difficulty of dealing with domestic servants. He knew a family in the enjoyment of an income of £2000 a year who had sent one of their servants to the hospital because she was suffering from pleurisy. This seemed quite unjustifiable. On the other hand, a family with about £300 a year would not easily be able to nurse a servant through a serious illness. He had several times been called to attend the servants of families in similar positions and then found that they refused to pay him. The servant on her side had not the means to pay and it often happened that by the time his bill was sent in the servant had left. Nor for ordinary patients was it possible in such a town as Brighton to apply a wage limit, for it often happened that though the wages earned were small a considerable income was derived from the letting of apartments.

The fact that paying patients are admitted at some of the hospitals is also a serious grievance. A case was mentioned of a lady who was asked to pay a hospital ten guineas for her child. Medical men who are in a good position and make large incomes can afford to attend gratuitously these paying hospital patients. They do not lose anything by it because though these patients pay they are not their patients. But if such patients were refused admission to the hospital they would go to some general practitioner and pay him. Thus the gratuitous work done by the visiting staff of the hospitals often takes money out of the pockets of other practitioners. Then there are a great number of wealthy people in Brighton who very readily subscribe to hospitals but will not take the trouble to go into the details. They write out a cheque and quickly dismiss the whole subject from their minds. With similar carelessness they distribute the tickets of recommendation for admission to the hospitals. Thus while the boards of guardians and the Charity Organisation Society are doing their best to propagate the principles of thrift and to teach the poor how to help themselves the medical charities are, on the contrary, encouraging improvidence. It is really wonderful under these circumstances that there are still some poor people who pay a penny a week for medical aid when it is so easy for them to obtain this aid for nothing. As an example of the carelessness with which wealthy persons recommend people to go to the hospital a medical practitioner told me that the sister of one of his paying patients went to a hospital because a wealthy gentleman who lives in London had especially recommended her to consult one of the physicians of the hospital in question. For this purpose he had sent her a hospital admission ticket. The banks who subscribe to the hospitals sometimes place the tickets of recommendation in the hands of one of their clerks who as often as not knows nothing about the question and to save trouble lets the applicants fill up the forms themselves. The latter, therefore, can make any declaration they choose about their incomes. Many patients having thus easily obtained a ticket come to the hospital and then, as they do not like the look of the place or the appearance of the poor people waiting their turn, go away, thus proving that they did not come out of sheer necessity. Such intending patients sometimes calmly drive up to the hospital in cabs. Other persons from surrounding towns when they visit Brighton for shopping purposes seize the opportunity to obtain a little gratuitous advice at one of the hospitals. Yet there are hospitals in the neighbouring towns and therefore there is no need for these outsiders to crowd the Brighton hospitals. It is urged that letters of recommendation should not be given indiscriminately to all subscribers. Above all, they should not be placed in the hands of impressionable ladies and of ministers and clergymen, who are more anxious to please members of their congregation than to check hospital abuse. It would be best, perhaps, to give the letters of recommendation only to medical men. In any case they would then have solely themselves to blame if cases of abuse arose. Of course some persons in Brighton resort to the London hospitals so as to avoid paying medical fees. A general practitioner described to me a case in point. The patient always paid him 5*s*. a visit and was suffering from stone in the kidney. He made arrangements to have the stone removed, but the patient suddenly disappeared: she had gone up to London, where the operation was performed at St. Bartholomew's Hospital.

From all these facts it is easy to see that there is much room in Brighton for improvement. The hospitals ought evidently to agree on a wage limit to be applied with equal severity by each institution and instead of refusing to participate in the proposed inquiry should on the contrary give it the most active support.

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DRAINAGE OF PLYMOUTH.—A Local Government inquiry was held at Plymouth on May 27th into an application by the town council for sanction to borrow £7275 for works of sewerage. Mr. F. M. Williams, the medical officer of health, said that from a sanitary standpoint the improvements were absolutely needed, as owing to defective sewers the subsoil was seriously polluted.

## NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

*The Protection of Sind.—The Camp at Reti.—The Plague in Karachi, Calcutta, and Bombay.*

AFTER the first outbreak of plague in Karachi the city was free for several months. With the object of preventing a fresh importation into Sind and also with the view to put a stop to the influx of persons coming from Bombay and other infected places, railway inspection and a detention camp were established at Reti, the frontier station in Sind, on the borders of the Punjaub. The plague has since been extending and ravaging many villages in the Punjaub, and recently a recrudescence or, as some prefer to call it, a reimportation, has occurred in Karachi. This has been followed by a second outbreak, which promises to far eclipse the primary epidemic of last year. The measures adopted at Reti of examining all passengers have greatly deterred passenger traffic into the Sind province. Europeans are passed but native passengers of whatever class are detained if from an infected area, as are all native third-class travellers for at least 24 hours from whatever district they may come, the people themselves and their kit being disinfected, while those coming from the neighbourhood of an infected area are further detained for a period of 6 days, and those coming from an infected area are detained for the maximum period of 10 days. Since the examining station and the camp were established on Jan. 20th only one case of plague has been discovered, so that the value of these measures can only be ascribed to preventing an influx of people. Seeing how the disease has since developed in Karachi it is doubtful whether the supposed benefit is at all commensurate with the inconvenience to traffic and the expense of an elaborate organisation. Between 11,000 and 12,000 people have been detained in the camp. The country around Reti is a barren waste and the climate is intensely hot. One of the special plague medical officers from England is in charge with native assistants and a small force of the native police.

In Karachi itself the disease is rapidly developing and the mortality is excessively high; 1183 cases and 992 deaths—a death-rate of over 83 per cent. The Civil Hospital under European control and two or three small native hospitals have so far provided for the sick. English nurses are working at the former place, but the lodging accommodation for them immediately over the plague wards on the ground floor is most unsatisfactory. Moreover, sufficient leisure does not seem to be allowed them to leave the hospital precincts, so that they must be almost constantly breathing an infected atmosphere. In Bombay the English nurses working under the Plague Committee had many complaints against the lodging and board accommodation made on their behalf.

The medical advisers of the Government have at length come to recognise the probable influence of the rat in the spread of plague and the Government have recently issued instructions that in the reoccupation of towns and villages the multiplication of rats should be watched and persistent efforts made to destroy them. The occurrence of dead and dying rats in houses shortly before the plague breaks out among the occupants has now been repeatedly observed and that the disease in the rat is plague has been over and over again proved by bacteriological investigation. It is only recently, and especially at Calcutta, that any systematic attempt has been made to destroy the rat population prior to the occurrence of plague cases. In Calcutta only a few cases of plague have as yet occurred and although one or two fresh cases are being discovered daily it is gratifying to find that the outbreak is apparently under control. Inoculation is reported as being at a standstill. This sudden rejection of inoculation, not only for its own benefit but as an alternative to detention and segregation, is peculiarly unfortunate, because in view of a probable outbreak large numbers of the people might have availed themselves of the protection which it affords. In Bombay the plague is dying a rapid and natural death, the total daily mortality having at last come down to two figures, from 70 to 80 being the average daily number of deaths at this period of the year.

May 12th

*The Plague in Calcutta, Bombay, and Karachi.—The Mortality in the Bombay Presidency.*

The irony of fate has been plainly expressed by the course of events in Calcutta. Freed for so long from invasion of the plague, and probably by the great precautions which have everywhere been taken to prevent its importation, Calcutta is now suffering not so much from plague as from panic. Only a few cases have been reported and the disease does not seem to make any headway, but the alarm caused by the anticipated carrying out of the much-talked-of sanitary measures has been followed by strikes, disturbances, and the flight of large numbers of the people. Calcutta has been declared an infected port, which has also added to the trade disturbance, but the real cause of alarm is with the house-to-house visitation, isolation of the sick, segregation of contacts, and all the other measures laid down by Government for combating the plague. The corporation do not appear to be quite in sympathy with these measures and the proposed alternative of inoculation to segregation has had quite the opposite effect to that which was intended. False reports of different kinds have produced a state of unrest and mistrust among the natives, so that every action taken by the authorities is misunderstood. After the elaborate preparations which have been made in Calcutta in the event of an outbreak occurring this condition of panic and opposition must have proved very disturbing to those responsible for its sanitary administration and seems to have disorganised all attempts at concerted efforts.

In Bombay the plague continues to linger but it is rapidly diminishing. The number of plague cases recorded from September, 1896, when the epidemic was first discovered, or rather when cases of plague were first registered, up to April 22nd, 1898, is 29,062 with 26,239 deaths—a mortality of 90·2 per cent. This is much higher than elsewhere.

In Karachi the plague returns are very unsatisfactory. The numbers are very large for the size of the city and the mortality is very high—76 per cent. Inoculation is being carried on to a limited extent at various centres, but the effort must prove so small in its results because the numbers who will submit to the operation or who offer themselves for it are so few. The people are still leaving Karachi notwithstanding the various quarantine camps in Sind and the inconveniences of detention which they necessarily have to go through.

The returns showing plague cases and deaths in the Bombay Presidency from September, 1896, to April 24th, 1898, give the following rates of mortality: Bombay city, 90·2 per cent.; Karachi city, 80·5 per cent.; Thana district, 80·0 per cent.; Satara district, 78·0 per cent.; Poona district, 75·0 per cent.; Poona city, 74·4 per cent.; and Surat, 74·4 per cent. It is almost certain that the figures for Bombay are vitiated by the false returns made at the cemeteries and burning-grounds. Large numbers of cases were probably never reported. The returns from the hospitals show a mortality of about 80 per cent.

May 18th.

## BIRMINGHAM.

(FROM OUR OWN CORRESPONDENT.)

*The Lunatic Asylums.*

THE report of the Lunatic Asylums Committee of the town council has just been issued. The medical superintendents show that there has been considerable crowding in the wards, but that some relief had been obtained by the lease of Sandwell Hall for male patients and the exchange of 30 female for 30 male patients by agreement with the Lancaster county authorities. The admissions during the year were 250 males and 189 females, that is 60 patients more at the end of the year than at the commencement, there being an increase of 87 males and a decrease of 27 females. It is pointed out that taking the ratio of these admissions to 10,000 of the population they do not show any appreciable increase in the disease itself, but merely that the excess is due to increase in population. In reviewing the causes it is found that intemperance in drink claims no less than 61 males and 47 females as its victims, showing a proportion to the total admissions of 24·4 per cent. males and 24·8 per cent. females. This is an excess over previous years and the greatest number hitherto recorded. The hereditary tendency was found to exist in 48 males and in 13 females, while no less than 99 of the total number admitted had had previous attacks of insanity. The necessity of abstinence from alcohol in those thus predisposed is emphasised by this testimony. Among other causes

22 males and 20 females suffered from epilepsy; and in the case of 16 males and 8 females some other bodily disease is attributed as a cause. Domestic troubles are assigned in 15 males and 5 females, the remaining cases being 17 puerperal and 14 congenital. The question of prevention is dealt with from a social standpoint and other subjects of interest are discussed in a very able report.

*Medical Benevolent Society.*

The seventy-sixth annual meeting of this society was held on May 27th. The report stated that the invested funds now amounted to £12 582 2*s.* 2*d.* and that there was a balance at the bank of £776 12*s.* 9*d.* The society has received a valuable addition to its funds in the form of a legacy of £2000 from the late Mrs. Bromell and one of £250 from the late Dr. Sharples. There were 17 annuitants on the books, the annual value of the grants ranging from £20 to £40, the total being £560. The benefit members of the society numbered 373, 17 new members being admitted during the year. The reports were adopted, votes of thanks were passed, and a dinner was subsequently held as usual.

*Hospital Saturday Fund.*

The Hospital Saturday collection this year amounts to £16,877 3*s.* 2*d.* from 1694 contributing establishments, as compared with £16,734 12*s.* 9*d.* from 1714 contributors at the corresponding stage of the collection last year, an increase of £142 10*s.* 5*d.*

*The Ticket System at Hospitals.*

At the Coventry and Warwickshire Hospital this question was discussed at a special meeting on May 25th. A subcommittee had reported that they were not satisfied with the ticket system as at present conducted. They considered that applicants for treatment, if members of sick clubs, should produce a certificate from the medical men that they were cases for hospital aid and that the medical officers should have more discretionary power in dealing with them. An amendment was carried that the report be referred back and the sub-committee asked to see whether they could not suggest proposals which would be really effective in preventing abuse of the hospital.

June 7th.

## MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

*Manchester Medical Staff Corps.*

WHITSUNTIDE is a great holiday time in Lancashire and the people—gentle and simple—pour out of Manchester and the other large towns in crowds, while numbers more from the surrounding districts come into Manchester in search of amusement. It is a great week for Volunteers camping out and on the coast of North Wales and Lancashire their white tents may be looked for every Whitsun week. Sometimes they have good weather and enjoy their experience of life under canvas, but this year the rain has interfered much with their comfort. The two Manchester companies of the Volunteer Medical Staff Corps went into camp at Lytham under the command of Surgeon-Captain Coates. There were also present Surgeon-Captain Fairclough, Surgeon-Captain Mann, Surgeon-Lieutenant and Adjutant Phillips, Surgeon-Lieutenant Smith, Surgeon-Lieutenant Pritchard, and the acting chaplain, the Rev. Canon Kelly. The number of men under canvas was about 130. Instruction was given in bearer-company drill, the establishment of field-dressing stations, ambulance and waggon drill, &c. The corps were inspected on June 3rd by Surgeon-Colonel Scott, C.B., the principal medical officer of the north-western district. He said that he was struck with the smart and soldier-like bearing of the men and he commended the rapidity with which the work was done and the excellent manner in which the stretcher exercises were performed. He thought "the whole of the camp, and especially the work of the bearers, reflected very considerable credit upon Surgeon-Captain Coates and the officers under his command." There is one matter in which an improvement in the treatment of the Volunteers might and ought to be made. A large proportion of the tents used by the Cheshire and Lancashire Volunteer Brigade were old and worn and they "acted like sieves when the rain came, and time after time deluged their occupants as they lay in bed." They were unhesitatingly condemned by an officer of the Ordnance Department as "unfit for further service." As is well known, when a tent is thoroughly wet if it is touched on the inside by a man's head or anything else the water, instead of running down outside, drips on to the unfortunates within, much to their discomfort. The first four days of this year's camping out were excessively wet and when eight men were inside one of the bell-tents its shape rendered it almost certain to be touched by a head or two, as one of the sufferers feelingly pointed out. Notwithstanding this there seems to have been very little sickness.

*Poor Children at the Seaside.*

Among the most commendable of the efforts for benefiting the slum children of Manchester is that of sending them in relays through the season for a week's sojourn in summer camps by the sea. There are two small camps at St. Anne's-on-the-Sea, to which forty children will be sent weekly till the end of September. Tents have given place to corrugated iron buildings, and an excellent feature of the scheme is that military discipline is maintained—a most valuable lesson. There is another camp for little slum girls, where some 240, from six to twelve years of age, will have a fortnight's holiday during June, July and August. About two miles from St. Anne's-on-the-Sea 488 boys and 44 officers of the Manchester battalion of the Boys' Brigade have been under canvas, and at Birkdale, Southport, the committee of the Strangeways Refuges, Manchester, have their annual camp. Since the latter was started, about fifteen years ago, from 12,000 to 14,000 poor lads from the crowded districts—the back streets and alleys of Manchester and Salford and other places—have had the benefit of a week's holiday at the seaside. It is difficult for those in a different condition of life to realise what this must mean to children who have known nothing but crowded streets with all the sordid and depressing surroundings of slum life in town. In addition to the physical benefit, the mental effect of the marvellous revelation of the existence of a brighter world than that hitherto known will be difficult to calculate, but altogether good. If there are any previous ideas of cleanliness they are extended and some notion of method and orderly arrangement is obtained from the rules and regulations which are carried out with military precision. The health of the boys while in camp has been very good. On arrival their own coat, vest, and cap are exchanged for a scarlet tunic and a round forage cap bearing the name of the institution and the lad's own clothing is fumigated. At the opening of the camp this year Sir George A. Pilkington, M.R.C.S., and other gentlemen addressed the boys. There are more of these agencies for giving poor town children a country holiday, but though much is done the numbers are so great that if all are to benefit these agencies may be extended almost indefinitely.

*Manchester Corporation Dwellings.*

It may be remembered that after the demolition of some notoriously insanitary property the Manchester corporation built large blocks of dwellings in Oldham-road and Pollard-street, which were ready for occupation in the summer of 1894. There was a strong prejudice at first among the labouring class and others against these "barracks" as they were often called, but in a couple of years it died away and now applications for tenements are so numerous that a selection can be made of the most suitable as to character. Payments are made weekly, the total number in Oldham-road being 284 and in Pollard-street 135. The rents are paid regularly and from April 1st to May 14th last there was not in either block of dwellings a single penny of arrears.

*An Unfortunate Case.*

An inquest was held on May 27th by Mr. Smelt, the city coroner, on the body of Thomas Smith, a carter, of Nelson, who died in the Manchester Infirmary on the previous day "from delirium consequent on his injuries." He was kicked by a horse about 9 A.M. on May 13th and sustained "a compound fracture of the right knee-cap," was taken to a medical man, who, after having attended temporarily to the leg, sent him on an ambulance to the Victoria Hospital, Burnley. To make a long story short he was received at the hospital, but as there was—or had been shortly before—a case of scarlet fever there it was thought safer for him to be removed to the workhouse infirmary. This was not done at once, and after having passed a night in the infected hospital they would not have him at the infirmary, so he was sent home and got there between 8 and 9 o'clock on Saturday night, the 14th.

He was taken to the Manchester Infirmary on Tuesday, the 17th, where he died. There has been a good deal of newspaper correspondence on this most unfortunate case under the heading, "The Burnley Hospital Scandal," and an inquiry is being arranged for between the guardians and the hospital authorities, presumably to apportion the blame, if any. A verdict of "Accidental death" was returned, but it will be difficult to convince the public that no one was at fault.

June 7th.

## SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

### *Glasgow University.*

THOUGH no official announcement has been intimated it is generally understood that Principal Caird has resigned. He has occupied the positions of Principal and Vice-Chancellor for nearly twenty-five years and has devoted himself not without success to the cultivation of the highest and best interests of the University. His dignified presence and lofty eloquence have for long been recognised distinctions of academic tradition, and it is not less true that in the inner life of the University his scholarship, culture, and devotion to the noblest ideals have been influences of the highest value. The appointment, which is in the gift of the Crown, is of the value of £1000 a year, with a residence in the University grounds.—During the past week the examinations for degrees in medicine and surgery have been in progress. For the first time the written examinations have been taken first, the clinical tests being fixed for a later date. The 127 candidates include 19 women students from Queen Margaret College.

### *Glasgow Samaritan Hospital.*

The dispensary for out-door patients in connexion with this hospital has until recently been carried on in a building at some little distance from the main institution presented to the directors by the late Miss Agnes Barr. An opportunity recently presented itself of selling this building to the corporation and in this way the directors have been enabled to build a new dispensary in connexion with the hospital. This has now been opened and is to be called "The Agnes Barr Dispensary." The building is admirably adapted for its purpose and is fitted up with all modern conveniences.

### *Convalescent Home for Nurses.*

The late Dr. Samuel Johnston Moore of Glasgow directed his trustees to apply the residue of his estate, amounting to about £45 000, to the provision and endowment of a convalescent home for nurses whose health might have temporarily or permanently broken down in the exercise of their profession. In conformity with this bequest the trustees have recently acquired some property at Busby, a few miles from Glasgow, and this will shortly be utilised for the above purpose. The house, which has been a family residence, stands in its own grounds and commands a beautiful stretch of country. It has undergone appropriate alterations and seems admirably adapted in every respect for a convalescent home. Dr. Moore also bequeathed a number of his books, ornaments, and pictures to the home and the comfort and convenience of the nurses have been fully consulted.

### *Glasgow Public Dispensary.*

It has for some time been rumoured that an unfortunate dispute has been in progress between a section of the medical staff of this dispensary on the one hand and the directors with a majority of the staff on the other. The minority somehow or other appears to have managed to assert its position, for an official announcement intimates that the leading directors and five members of the staff have resigned their connexion with the dispensary.

### *Aberdeen City Hospital.*

It has been agreed to extend this hospital (for infectious diseases) by erecting three new wings for the accommodation of servants and as reception- and departure-rooms for patients, at a total cost of £4650. The accommodation will now be as follows: in wards for patients, 150 beds; matron, 1 room; resident medical officer, 1 room; nurses, 30 rooms; wardmaids, 7 rooms; laundrymaids, 6 rooms; head laundress, 1 room; house servants, 6 rooms; cook, 1 room; total, 53 rooms. The whole buildings have cost about £40,000.

### *Aberdeen Medical Volunteer Staff Corps.*

This company, which is 100 strong, went into camp on June 2nd on the picturesque grounds of Urie, near Stonehaven, the county town of Kincardineshire, under the command of Surgeon-Captain J. Mackenzie Booth, and returned to Aberdeen on June 6th.

June 8th.

## IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

### *The Royal College of Surgeons in Ireland.*

THE annual ballot for the election of the President, Vice-President, and Council of the Royal College of Surgeons in Ireland took place on June 6th and excited more than usual interest on account of the close contest for the Vice-Presidency. Dr. Myles, surgeon to the Richmond Hospital, was elected by a small majority. Mr. R. L. Swan succeeds Sir William Thomson as President of the College.

### *The Royal Institution of Public Health.*

The Lord Mayor of Dublin visited the Royal University Buildings on May 26th to confer with the Exhibition Committee in connexion with the coming Hygienic Congress. The announcement has now been made that a Health Exhibition will be held at the Royal University Buildings from Aug. 18th to 27th under the auspices of the Royal Institute of Public Health and in connexion with the Hygienic Congress which will take place at Trinity College during the same week. The proceedings will open on the morning of Aug. 18th with a reception there, after which the reading of papers, &c., will commence. On Friday evening Alderman Meade, the Chairman of the Reception Committee, will give a garden party at Ailsbury-road, while Sir Christopher Nixon will entertain the visitors at Roebuck. During that week Dublin is always overcrowded and its hotels are filled by people who come from all parts of the kingdom to attend the horse show. Visitors should remember this and make their arrangements beforehand.

### *The Irish Medical Association.*

The annual meeting of the Irish Medical Association was held at the Royal College of Surgeons in Ireland on June 6th, the President, Dr. T. H. Moorhead, occupying the chair. The annual report, which was read, dealt largely with the provisions of the new Local Government Bill, which will make serious and important changes in matters affecting the medical officers of the Poor-law service. Dr. Arthur Benson, after speaking in favour of medical superannuation and with reference to the continued abuse of the so-called *red tickets* for free medical relief, moved the following resolution:—

That the Council be requested to persevere in the efforts made for so many years to induce successive Governments to amend the present Poor-law system; that particular regard be given to the question of superannuation of medical officers; the issue of medical relief tickets so that persons in independent circumstances may be prevented from availing themselves of the means provided by the ratepayers for the sick poor; and that annual leave of absence be granted to medical officers.

The ballot for officers for the ensuing year resulted in the election of Sir Thornley Stoker as President of the association. The annual dinner took place at the College of Surgeons on the same evening and was attended by many distinguished non-medical visitors — the Lord Mayor of Dublin, the Right Hon. the Lord Chancellor (Lord Ashbourne), the Right Hon. Alderman Meade, LL.D., the Right Hon. C. H. Hemphill, M.P., Sir Andrew Reed, C.B., Mr. J. H. Campbell, Q.C., M.P., and many others.

### *The Royal Medical Benevolent Fund Society of Ireland.*

The fifty-sixth annual meeting of this society was held in the afternoon of June 6th at the Royal College of Physicians of Ireland. Sir George Duffey, President of the Royal College of Physicians, occupied the chair, and received the report of the Central Committee read by Dr. J. W. Moore, one of the honorary secretaries. Sir William Stokes, in moving the adoption of the report, alluded to the deficient funds of the society and to the advisability of founding free medical studentships whereby some deserving student in poor circumstances would be assisted in the progress of his profession and education. Professor Bennett, President of the Royal

Academy of Medicine, having been voted to the second chair a vote of thanks was unanimously passed to Sir George Duffey.

*Gallantry.*

A man named Kenny was cliff-climbing on Whit-Monday near the falls at Paula-phouca and fell into the river. A member of the Irish Constabulary, Constable A. Madden, instantly plunged in after him but was dashed against a rock to which he had to cling, while Kenny was seen clinging to another rock. A rein was brought from a neighbouring hotel and placed round Kenny's body by Mr. Richard Shaw of Dublin and Constable Madden, who had succeeded in reaching him. On Kenny being brought safely to land both Mr. Shaw and Constable Madden were warmly cheered by the spectators.

*The Health of Belfast.*

At the meeting of the city corporation held on June 1st it was reported that between April 24th and May 21st 428 cases of zymotic fever had been notified, viz.: 254 cases of typhoid fever, 90 of simple continued fever, 42 of scarlet fever, 21 of erysipelas, 17 of diphtheria, and 2 cases each of membranous croup and puerperal fever. The total death-rate from all causes in Belfast was 25·5 per 1000. The number of cases of typhoid fever, though large, was less than in the preceding month. An animated discussion followed the reading of the report of the Public Health Committee at the corporation meeting, several members of the city council speaking of the inefficiency and unsatisfactory condition of the Public Health Department. A sub-committee has been appointed to inquire into and report upon the working of the Health Department of the corporation. There is no doubt that there is an unusual amount of sickness in Belfast for the present season of the year. There seems to be widely prevalent an epidemic of an influenza type, some of the cases culminating in sharp attacks of laryngitis, others ending in gastric catarrh. They may in part be caused by the present weather, as few remember such an extraordinary wet season as that which we are at present experiencing. There would appear also to be cases of typhoid fever in almost all parts of the city.

*Workmen's Compensation Act.*

Notice has been given by the Home Secretary that applications for appointments as medical referees under the Workmen's Compensation (Ireland) Act, 1897, may be sent to his office. The referees are to be men of independent position and high standing in their profession and should have such experience of the class of questions arising as will enable them to decide with authority points in which there may be divergence of medical evidence. Other things being equal, preference, it is announced, will be given to those holding important hospital appointments or having had other special opportunities of gaining wide experience of accidents and their consequences. The Treasury have fixed the scale of fees as follows: For a first reference, to include examination and written report, two guineas; for a further written statement on the same reference, one guinea; for a second or subsequent reference in the same case, one guinea; for attendance at the proceedings on the request of a county court judge at a time and place to be arranged, three guineas. If the medical "referee" has to travel more than two miles from his residence he will be paid an addition of 5*s.* for each mile of distance. These medical referees (of whom at first one or more will be appointed for each county and paid by the Treasury) will have as their principal duty to act as the advisers in medical matters of the committees, arbitrators, and county court judges who are empowered to decide all questions arising in proceedings under the Act.

June 7th.

## PARIS.

(FROM OUR OWN CORRESPONDENT.)

*Treatment of Pott's Disease by Forcible Reduction.*

M. CALOT brought before the Academy of Medicine on May 31st about twenty young persons who had suffered from Pott's disease and had been successfully treated by his method. He allows his patients to walk some weeks after the reduction of the deformity if the disease has come to an end, but only some months after it if the disease is still in progress and they continue to walk as long as the treatment is continued. He attaches much importance to this part of the procedure, which by enabling the children to move about has the best effect on their general health and appears to promote the consolidation of the spinal column. It can, however, be accomplished only when the apparatus is large and well made, surrounding the body and fitting the lower part of the skull; it must keep the spinal column exactly in position without interfering with the act of walking. As soon as consolidation has begun the large plaster apparatus is replaced by a corset, which is worn for a year or two, or even longer, if requisite for ensuring the rigidity of the spine. With this corset—which is very little, if at all, perceptible under the clothing—the children can attend school and in most respects do as other children do. M. Calot showed two children who walked about wearing a large plaster apparatus which fitted the lower part of the skull and also two children with the little corset.

*Foreign Bodies in the Œsophagus.*

At the same meeting of the Academy of Medicine M. Monod read a report on an observation by M. Monier relative to a case of a foreign body in the œsophagus. A child, five years of age, had swallowed a coin of the size of a halfpenny which had become impacted at the level of the left bronchus. M. Monier ascertained its position by means of the Roentgen rays and performed external œsophagotomy, which resulted in recovery. M. Monod considered that this operation was preferable to direct extraction, as the foreign body had been swallowed a year previously and was by this time embedded. Radiography was of conspicuous advantage in cases of this kind. M. Réclus mentioned a similar observation in which a coin had been swallowed for five days and was already embedded. In this case, also, radiography enabled its exact position to be determined.

*A New Tuberculin.*

MM. F. Ramond and P. Ravaut reported to the Society of Biology on May 28th that bacilli of the tuberculosis of fish, discovered by Dubard, had been cultivated by them in bouillon containing glucose and glycerine, and that on filtering these cultures through porcelain they obtained a toxin which by its smell and its biological reactions exactly resembled the tuberculin derived from the bacillus of tuberculosis occurring in the human subject. With this new toxin they made experiments in two series as follows. First, a tuberculous guinea-pig was inoculated with the toxin, the result being the production of pyrexial reaction with shivering and prostration lasting for six hours, although neither the control guinea-pig nor even the tuberculous guinea-pig, which had received control injections of glycerinated bouillon, showed any pyrexial reaction. Secondly, two guinea-pigs, which had been inoculated on different dates with the bacillus of fish tuberculosis and which exhibited some emaciation, were injected with half a cubic centimetre of ordinary tuberculin; they both showed a well-marked pyrexial reaction, amounting in the first to 2° C. and in the second to 1·5° C.

*Mental Derangement after Operations.*

At the Surgical Society M. Picqué, on May 5th, resumed a long discussion, which has already occupied several meetings, on the subject of Mental Derangement after Operations. His conclusions were as follows:—1. There are lunatics who only seek surgical advice under the influence of insane ideas and against whom the operator must be on his guard. 2. There is a class of patients who do not show any signs of mental disorder at the time of the operation but subsequently become deranged sooner or later. These are examples of mental derangement after operations, a state which must not be mistaken either for toxic delirium or for that produced by infection. Gynæcological operations do not predispose to it more than others. 3. The mental disorder does not assume any constant form; it may be marked either by excitement or by depression. 4. As regards the cause of these phenomena the majority of the observations show that a great number of the patients have either suffered from actual insanity or have an hereditary predisposition to it. 5. The mental state of the patients ought to be examined before every operation, but this examination would not enable mental disorder following the operation to be foreseen.

*The Maternity Hospital.*

M. Felix Faure, the President of the Republic, accompanied by M. Barthon, M. Le Gall, and General Hagron, visited the Maternity Hospital in the boulevard de Port Royal on May 27th. The President passed through all the

wards of the establishment and spoke to the patients whose circumstances called for any special remark, listening to the recital of their needs and wishes. Many of them had husbands who were at home either ill or out of work and children with no one to look after them, the consequence being that the women refused to remain in the hospital till their health and strength were fully restored and many serious complications originated in this way. The President of the Republic has consulted the Director of the Assistance Publique and the presidents of the municipal council and the general council with respect to this question and has expressed a desire to take joint action with them. The part of the hospital last visited was the ward containing the incubators for prematurely born infants. On leaving, M. Faure complimented the staff on their zeal and devotion and in his own name handed to the director a sum of 500 fr. (£20) to assist necessitous patients on their discharge.

*A New Ambulance Station.*

A new station for municipal and city ambulances in the rue Caulaincourt, in the north of Paris, was formally opened on June 3rd at 5 P.M. After an inspection of the premises lunch was served in one of the rooms, and M. Veber, a member of the municipal council, speaking in the name of the council, enlarged on the necessity for developing all the public services connected with hygiene. M. Strauss, a member of the Senate, then briefly recounted the endeavours which had been made by the council to organise a system of first aid for sick and injured persons. The new ambulance station has nine vehicles, together with a large staff of male and female attendants, telephone clerks, and coachmen, and is furnished with every requisite not only for first aid to the sick and injured, but also for the disinfection of living rooms and personal effects.

June 6th.

# Obituary.

## ROBERT WALLIS, M.R.C.S. ENG., L.S.A., J.P.

THE death of Mr. Robert Wallis of Old Ridley, New Stocksfield, Northumberland, in his eighty-ninth year, is felt as a real loss in the neighbourhood of Newcastle. He was one of a considerable number of medical men whose constitution and whose talents enabled them to live, as it were, two lives. Mr. Wallis filled for the last fifty years many most important public offices. He was alderman and twice mayor of South Shields, of which town he was a native, before his removal to Old Ridley nearly forty years ago. He was for fifty years a director of the South Shields Gas Company and for forty of these its chairman, only on one occasion failing to attend its annual meeting, where he was in the habit of making lucid statements of the state and prospect of the business. He discharged this function so lately as February last. He was a member of the River Tyne Commission. He was an active county magistrate and for some time chairman of the Hexham bench. He was also an energetic member of the county council of Northumberland and held the very important position at one time of chairman of the Standing Committee. Such are the public offices which Mr. Wallis filled and filled with such ability as to call forth the wide and just praise of the press of his district. But such accounts, which are exceedingly gratifying to us to read, scarcely mention his professional life, which was an honour to his native town. He was trained at University College and was a pupil and, if we remember rightly, a house surgeon under Mr. Liston. He had all the qualities which endear a practitioner to the community which he served. Naturally, and by the privilege of his pupilage, he was a good surgeon; his judgment in the treatment of disease was sound; and his courtesy and kindness were unfailing and without respect of persons. No wonder that his advice was much sought and that he was much consulted and entirely trusted by his fellow practitioners as well as by his fellow townsmen. Such professional lives may be partly eclipsed when they are succeeded by a public life of great activity and usefulness. But it is our duty as it is our pleasure to recall the medical basis of the whole life and to show that such a basis is one of the best on which to build public character and public work. Mr. Wallis married somewhat late in life and leaves a widow and two sons to mourn their loss.

## WILLIAM ILIFFE, M.R.C.S. ENG., L.S.A.

MR. ILIFFE, medical officer of health for the borough of Derby, died very suddenly about 10 P.M. on June 3rd at his residence in Osmaston-road. He had felt unwell for some little time, but had nevertheless on the day of his death attended to his professional engagements as usual, including a visit to the infectious diseases hospital, and was passing the evening with his family when the fatal seizure occurred. Mr. Iliffe was a native of Nuneaton and was fifty-three years of age. He studied medicine at St. Bartholomew's Hospital and in 1866 took the diploma of M.R.C.S. Eng., to which he added that of L.S.A. in the following year. About 1870 he went to Derby, where he practised in partnership with his brother, Mr. Frank Iliffe, and showed such professional ability that in 1876 he received the appointment of medical officer of health, the duties of which he carried on concurrently with an extensive private practice until 1895, thenceforth devoting his whole time to the service of the borough. Mr. Iliffe was very energetic in his public health work, and did much to improve the sanitary condition of the district under his charge. He has left a widow, one son, and three daughters. An inquest was held by the coroner on June 4th, when the jury returned a verdict of "Death from syncope" and expressed their sympathy with the family.

# THE GENERAL COUNCIL OF MEDICAL EDUCATION AND REGISTRATION.

TUESDAY, MAY 31ST.

THE earlier proceedings of the Council on this the last day of the session have been reported in THE LANCET of June 4th.

*The Pharmacopœia.*

The Pharmacopœia Committee beg leave to report to the Council as follows:—

Since the last meeting of the Medical Council the fourth British Pharmacopœia, which has been in preparation during the past five years, has been published. The final revise having been approved by the Pharmacopœia Committee on Feb. 21st, 1898, the Chairman of the Committee, our late President, Sir Richard Quain, handed over the completed proof to the Executive Committee for publication, and subsequently, on behalf of the Executive Committee, ordered the printing of 20,000 copies. Thus by almost the last official act of his life he completed a work in which he had taken the greatest interest and over which he had watched with solicitude and care. It is worthy of note that his official connexion with the revision of successive Pharmacopœias dates from 1864 and remained unbroken up to the time of his death.

The distribution of the Pharmacopœia of 1898 commenced on May 7th, and up to the 25th of the month 11,385 copies have been sold. The committee desire to place on record their special indebtedness to two members of their own body, Dr. Leech and Dr. MacAlister, whose original investigations have greatly assisted in the solution of many problems which called for anxious consideration and who have brought to bear upon the whole of the work a very remarkable combination of great chemical, pharmacological, and pharmaceutical learning with the skill and experience of practical physicians. In the preface to the Pharmacopœia of 1898 it is stated that "the Council have in contemplation the early preparation of an addendum, in which medicinal plants and other substances suggested for inclusion by Indian and colonial authorities will be dealt with more fully than has now been possible." The committee have already initiated the necessary arrangements for the preparation of this addendum. A first proof will be ready in about six months and will be submitted to the Indian, colonial, and other medical authorities interested. It is hoped that the addendum may be completed for publication in eighteen months.

*Resolutions* have been passed by the committee to the following effect:—(1) That Dr. Tirard be asked to continue his service as secretary until the publication of the colonial addendum; and (2) that Dr. Attfield be appointed editor of the addendum, and that he be assigned an additional honorarium of one hundred guineas.

The Pharmacopœia Committee have drawn up, with the assistance of the editor and secretary, the appended account of the methods adopted in preparing the British Pharmacopœia of 1898:—

The British Pharmacopœia of 1898 has been prepared by methods more or less resembling those adopted in preparing the pharmacopœias of 1864, 1867, and 1885, and the Addenda of 1874 and 1890, but with important modifications and elaborations of former procedure.

In the British Pharmacopœia of 1864 the Pharmacopœias of London, Edinburgh, and Dublin were merged, hence its compilation was appropriately carried on by three sub-committees sitting respectively in the three capitals. The members of the Pharmacopœia Committee appointed by the Medical Council associated with themselves Members from the three Colleges of Physicians, members of the Pharmaceutical

Society of Great Britain, and several experts. This body of compilers then divided into three sub-committees, each undertaking a third portion of the whole work. To each sub-committee a secretary was appointed. The resulting volume was in two parts: (1) Materia Medica; and (2) Preparations and Compounds (Minutes of Council, vols. i., pp. 6, 70, 89; ii., 30, 80, 159, 213, 238; xxxii., 17). In 1867 the Pharmacopœia of 1864 was revised by two editors under the direction of a small committee sitting in London. The division of the book into parts was discontinued, the metric system of weights and measures was recognised in an appendix, while many of the published researches that had been reported at the suggestion of the Medical Council (Minutes, vols. iii., p. 484, and v., pp. 312, 323) and by the present editor (*Pharmaceutical Journal*, second series, vols. v., pp. 581, 628, and vi., p. 7) were utilised. A small volume of "Additions" was issued in 1874. The third British Pharmacopœia in 1885 was prepared under the direction of the Pharmacopœia Committee of the Medical Council by three editors aided by suggestions and assistance from several of the medical bodies, from medical practitioners, and from pharmacists. The methods adopted in its compilation were those of the previous Pharmacopœia, but the chemical nomenclature was modernised, proportional parts were freely introduced as gradually leading up to the more general use of the metric system of weights and measures, and the omission of detailed processes for chemical substances was commenced. In 1890 an Addendum was issued under the supervision of the Pharmacopœia Committee of the Medical Council, aid in selecting the additions being rendered by twelve of the medical bodies of Great Britain and Ireland and practical assistance being given by a committee of the Pharmaceutical Society of Great Britain. The annual reporter to the Council, who had been appointed in 1885, was the editor of the Addendum.

The British Pharmacopœia of 1898 was prepared, like the three previous Pharmacopœias, under the supervision of the Medical Council's Pharmacopœia Committee, which includes representatives of the medical bodies of England, Scotland, and Ireland. All the meetings of the committee were held in London. In selecting additions to, and in deciding on omissions from, the previous Pharmacopœia aid was rendered by sixteen medical bodies of the kingdom. Assistance, advisory and experimental, was rendered by a committee of the Pharmaceutical Society of Great Britain. For the first time medical and pharmaceutical bodies in India and the colonies contributed to the production of the Pharmacopœia. The help of referees in chemistry, botany, and therapeutics was occasionally obtained. The editor advised specially on all matters relating to pharmaceutical chemistry. The yearly abstracts of published researches which had been drawn up by the reporter from 1886 onwards at the desire of the Council were found of much value. The metric system of weights and measures appeared in the text of the Pharmacopœia, side by side with the imperial system, and was alone employed in all paragraphs relating to analysis. Except in the Latin titles the chemical nomenclature was further modernised and the exclusion of details of the modes of making chemical substances, begun in 1885, was completed.

So far the methods of preparing the British Pharmacopœia of 1898 have been described broadly and in relation to the methods adopted in preparing the Pharmacopœias of 1864, 1867, and 1885; some details will now be given. The decision to alter, amend, and republish the British Pharmacopœia of 1885 was taken by the Medical Council in December, 1893. Soon after the publication of the third Pharmacopœia—namely, on Nov. 17th, 1886—the attention of the Council had been drawn to "the question as to whether or not any changes—and, if any, what changes—can be effected in a British Pharmacopœia to better adapt it to Indian and colonial requirements" (Minutes, vol. xxiii., p. 127). A letter received by the Council in 1892 from the Government of India, suggesting the omission of saffron from certain official preparations and the use of an oil indigenous to India in the manufacture of official ointments, emphasised the question. The result was that letters were written by the President of the Council to the Lord President of Her Majesty's Privy Council, stating that if the medical and pharmaceutical authorities resident in India and the colonies would bring before the Medical Council such a list of suggestions relating to any part of the British Pharmacopœia as their knowledge of the pharmacology and pharmacy of their respective countries or districts might enable them to make, the communication should receive the fullest and best consideration of the Medical Council, and praying the Lord President to direct the attention of the Indian and colonial authorities to the matter. The development of this action induced the Council on Dec. 4th, 1893, to decide on the preparation of another Pharmacopœia and to appoint an editor (Minutes, vols. xxix., p. 77; xxx., pp. 73, 74, 122, 162).

In the earlier portion of 1894 the President, at the suggestion of the editor, decided that when omissions and additions had been settled, and the first series of preliminary experimental investigations had been completed, the alphabetically arranged Pharmacopœia should be temporarily broken up into ten sections and that proofs, one section at a time, should be set up in type and laid before the Pharmacopœia Committee of the Medical Council and a Committee of the Pharmaceutical Society (Minutes, vol. xxxi., pp. 82 to 84, and 164 to 171). In November, 1894, the Pharmacopœia Committee of the Council decided that letters should be addressed to the respective medical authorities of Great Britain and Ireland asking for their coöperation and assistance, replies being requested before the ensuing April. At the same meeting the Council of the Pharmaceutical Society of Great Britain was invited to nominate a Pharmaceutical Pharmacopœia Committee to report, with the concurrence of the Society's Council, to the Medical Council through the Pharmacopœia Committee of the latter Council. At the May Session of the Council in 1895 the Pharmacopœia Committee had the following 34 printed documents at disposal as material for preparing the new Pharmacopœia: Nine Annual Reports, 1886 to 1894, on the Progress of Pharmacy in relation to the revision of the Pharmacopœia, 194 pages; Reports from Sixteen of the Medical Bodies of Great Britain and Ireland containing suggestions as to omissions, additions, and alterations, 34 pages; a Tabulated "Summary" of the sixteen Reports just mentioned, arranged for ready reference and discussion by committees and including blank columns on which to record the decisions reached, 123 pages; a Summary of Twenty-eight Communications from India and the colonies respecting the revision of the Pharmacopœia and respecting local requirements which might be met should any extension of the usefulness of the Pharmacopœia to all parts of the empire be carried out, 57 pages; a Tabulated Memorandum on the British Pharmacopœia by the Therapeutic Committee of the British Medical Association, including statements from nearly 6000 medical practitioners as to official medicines "often," "rarely," or "never" used, and opinions respecting additions, alterations, and omissions, 12 pages; Statistical Tables founded on answers to questions as to official medicines "frequently," "seldom," or "never" prescribed or sold, and conclusions as to additions and omissions, from the Pharmacopœia Committee of the Pharmaceutical Society, 17 pages; Analysis of 10,000 Prescriptions dispensed by pharmacists in various districts of the United Kingdom during the first quarter of the year 1886, extracted from the *Chemist and Druggist* of April 24th, 1886; Analysis of 12,000 Prescriptions dispensed in six pharmacies in Aberdeen, Bournemouth, Carlisle, Cork, London, and Oxford, by W. Martindale, 91 pages; a Tabulated Summary of the four preceding documents, arranged in columns and including a column showing how many of 13 medical bodies of the United Kingdom recommend omission of the respective official articles, 79 pages; the Unofficial Formulary of the British Pharmaceutical Conference, 32 pages; a General Report from the editor giving (*a*) a description of the work already accomplished; (*b*) an outline of the contents of the foregoing documents; (*c*) an estimate of the amount of work to be done and an estimate of the date on which the first proof of the whole Pharmacopœia might be expected to be ready, the estimated date being four years from the commencement of the work. (Minutes of Council, vol. xxxii., p. 90; also the Minutes of the Meetings of the Pharmacopœia Committee of May 31st, June 3rd, and June 5th, 1895.)

To deal with this mass of material it was decided on June 5th, 1895, to call the members of the Pharmacopœia Committee together for three days towards the end of July and again in the following November prior to the autumn session of the Council. The Pharmaceutical Society's Committee was at the same time requested to be good enough to give the Council the benefit of its advice on the pharmaceutical questions raised in the summaries of the suggestions by the British, Indian, and colonial authorities and generally on the preparations in the Pharmacopœia, copies of the summaries accompanying the request as well as copies of the nine annual reports, bound together, with a general index. The editor was instructed to place his services at the disposal of the Pharmaceutical Committee. On June 5th, also, a secretary to the Pharmacopœia Committee of the Medical Council and at the same time referees in chemistry, in botany, and in pharmacology and therapeutics were appointed.

A year and a half had now been occupied in getting together from all parts of the empire the material necessary for the production of the fourth British Pharmacopœia. The next two years were fully occupied with the elaboration of the respective ten sections of the book and then nearly one year was required for (*a*) the scrutiny by the Council of the reunited sections; (*b*) the preparation of eleven appendices; (*c*) the harmonisation of text, appendices, prefatory pages, and index; (*d*) the preparation of a few scores of copies of the Pharmacopœia for a month's inspection by pharmacists and for notice by the journals of medicine and pharmacy; and (*e*) for seeing an edition of 20,000 copies through the press. It may here be stated that every proof of each of the ten "sections" was submitted four times at least to the Council's committee and four times to the Pharmaceutical Committee. Thus, the editor having prepared a proof of a given section, it was submitted to the committees; the first time for general examination and for any additional adaptations of general principles, the second for revision, the third for provisional acceptance, the fourth for confirmed acceptance; each time the corrections were incorporated in a single proof, which was reprinted and distributed to the members of the two committees. For three of the sections five different proofs were necessary, for one of the sections six proofs, and for the first section seven proofs. The following statement shows the classification of the sections, the number of separate proofs examined, and the percentage proportion of the Pharmacopœia occupied by each of the respective sections.

1. Alcohol, spirits, tinctures. Seven proofs. 7·4 per cent. of the pages of the book.
2. Materia medica. Four proofs. 13·3 per cent.
3. Waters, decoctions, infusions, mixtures, wines. Five proofs. 3·3 per cent.
4. Confections, mucilages, oxymels, sugars and syrups, tablets, lozenges. Five proofs. 3·5 per cent.
5. Chemical substances, in text and appendices. Five proofs. 28·4 per cent.
6. Fats, glycerins, liniments, oils, ointments, plasters, resins, suppositories. Four proofs. 9·4 per cent.
7. Extracts, pills, powders, juices. Four proofs. 7 per cent.
8. Vinegars, hypodermic injections, discs, solutions, lotions. Four proofs. 6 per cent.
9. Preface and prefatory pages. Four proofs. 5·7 per cent.
10. Index. Three proofs. 16 per cent.

The Pharmacopœia Committee of the Medical Council met on thirty-five days; the Pharmaceutical Society's Committee also met on thirty-five days; every sitting of a committee occupied an average of four hours. The editor attended each of the seventy meetings to contribute his editorial services and as far as possible to keep the two committees in communication with each other. When the material of the eight sections of the text had been re-arranged in alphabetical order the whole was revised, and the appendices, prefatory pages, and index were duly added. There were four revisions of the completed book before a proof of the whole was presented by the Medical Council's Pharmacopœia Committee to the Executive Committee on Feb. 21st, 1898. The type of the book was set up for the ultimate octavo-page volume, but the proofs were printed on a quarto page, and on one side only, thus allowing ample margins and blank pages for comments. Every proof was marked "Private and Confidential."

On assembling for three days in July, 1895, the Pharmacopœia Committee of the Medical Council proceeded to deal with the material and with the subjects described in the foregoing paragraphs. Several matters of detail having been disposed of, the committee considered a long preliminary report from the Pharmaceutical Society's Committee on the many pharmaceutical questions which had been raised by the medical authorities of Great Britain. The second important subject was only provisionally dealt with; it was that of the 95 suggested "additions" to the Pharmacopœia. The consideration of the 410 suggested "omissions" was commenced on the third day, and of 175 substances it was decided to retain 78 and postpone decision respecting 24. On re-assembling for two days in November, 1895, the committee,

after dealing with many matters of detail, completed the consideration of the remaining 235 "omissions" suggested by the medical authorities. As a result the "omissions" recommended by the committee amounted to 188, the "additions" to 80, while 11 articles were transferred from the text to an appendix. The official articles in the text of 1885 and the additions of 1890 amounted to 943. Deducting the 11 transferred articles, the previous Pharmacopœia contained 932 articles, the present 829. The prefatory pages of the present Pharmacopœia may be consulted for further results of these methods of dealing with the subject of additions to and omissions from official remedies prior to 1898, but allowing for any slightly altered substances which appear under new names and for any altered substances which still retain old names, there is a reduction of at least 10 per cent. in the very large number of official remedies at the disposal of prescribers prior to 1898. The application of similar methods in future may be expected to result in the gradual elimination of other less trustworthy medicinal articles and the possible inclusion of newer remedies.

The editor's proofs were in the first instance placed before the Pharmacopœia Committee of the Medical Council and then were submitted to the Pharmacopœia Committee of the Pharmaceutical Society for general consideration and suggestions, while special difficulties were reserved for the referees. The President of the Medical Council in his address on June 2nd, 1896, stated that "the Pharmaceutical Society's Pharmacopœia Committee has been engaged more or less continuously in replying to the many questions of the Pharmacopœia Committee of the Council and has already sent in three reports." A fourth report, dated Feb. 5th, 1897, was subsequently received. Moreover, the results of the deliberations of the Pharmaceutical Committee and of pharmaceutical processes carried out by its members were noted by the editor on the margins of his proofs and duly conveyed to the Medical Council's Committee, the deliberations of the latter in all matters pertaining to pharmacy being similarly conveyed to the Pharmaceutical Committee in accordance with the understanding between the two committees. The work of the Pharmacopœia Committee of the Medical Council during 1896 and 1897 included the consideration of reports on doses by a sub-committee, reports from the eight referees, reports from the secretary and the editor respecting the index to the Pharmacopœia, the examination of some hundreds of samples of tinctures, spirits, concentrated solutions, ointments, and other substances prepared by the editor; reports from the editor on the strengths of certain dilutions of alcohol respecting which he had sought the assistance of officers of the Excise, on weights and measures in which he had unofficially sought the help of the Warden of the Standards, on the descriptions of the processes by which chemical substances are prepared in which he had been assisted by manufacturing chemists, a report on chemical nomenclature appropriate to the Pharmacopœia, and a report on a practical method of introducing metric weights and measures into the text of the Pharmacopœia. But the chief and most laborious duty of the committee was the detailed consideration and correction of the proofs of the ten sections of the Pharmacopœia and of four proofs of the whole Pharmacopœia. Not only were the proofs considered at the meetings, but the members of the committees both of the Medical Council and of the Pharmaceutical Society gave much attention to them in the intervals of the meetings and frequently corresponded with the editor respecting them. Completed copies of the volume were submitted to the members of the Medical Council, and their corrections having been inserted the final revised proof was by the authority of the Council put into the hands of the Executive Committee for publication.

To minimise the inconvenience to medical practitioners and pharmacists inevitably attending the publication of an altered and amended Pharmacopœia the Executive Committee, on the recommendation of the Pharmacopœia Committee, gave to all persons concerned access to copies of the final proofs in London, Edinburgh, and Dublin, and placed copies of the proofs at the disposal of the editors of the chief British journals of medicine and pharmacy during the period occupied in printing, binding, and preparing for sale a very large edition of the book. The plan has been so far satisfactory that not only during a whole month did a large number of persons attend at the chief office and branch offices and examine the copies, but the journals gave full and in some cases most minute and carefully compiled descriptions of all omissions, additions, and alterations as between the issues of 1885 and 1898.

All important documents relating to the production of the British Pharmacopœia of 1898, including correspondence and all proofs annotated by compilers, have been arranged and preserved for any future reference that may be necessary.

In submitting the motion Mr. CARTER said he hoped that in future the chairmanship of this Pharmacopœia Committee would be filled by Dr. Leech. The appendix to the report was intended to be a history of the steps and methods in which the new edition of the British Pharmacopœia had been compiled and would be a valuable piece of historical information.

Dr. LEECH congratulated the Council on the completion of the work. Their late President, Sir Richard Quain, had been most anxious that the new edition of the book should be completed during his life and that his name should be associated with it and he (Dr. Leech) thought the Council would be glad that Sir Richard Quain's wishes were realised. The Council should express their obligation to other workers on the book. To the referees they were much indebted for criticisms and suggestions. In the committee of the Pharmaceutical Society they had a large number of the ablest pharmacists in this or any other country who had paid the greatest attention to the subjects remitted to them, with the result that they had more correct descriptions of doses, &c., than ever previously published. Then the Council were indebted to the nineteen corporate bodies which sent reports and very greatly indebted to Dr. Attfield for his editorship and excellency of organisation in the preparation of the book.

The PRESIDENT proposed:—

That the best thanks of the Council be given to the Pharmacopœia Committee for the laborious duties which they have discharged during the last five years and which have resulted in the production of a work which they have every reason to believe will be satisfactory to the profession.

This proposal was unanimously carried, as was also a second motion tendering thanks to the committee of the Pharmaceutical Society; to the referees in chemistry, botany, and pharmacology; to Dr. Tirard, the secretary; and to Dr. Attfield, the editor.

*A Special Case.*

On the motion of Dr. MACALISTER, seconded by Mr. BRYANT, it was agreed, on the recommendation of the English Branch Council, to register the name of Dr. Robert Arnold Barker, Lic. Soc. Apoth. Lond. 1861, M.D. Univ. St. And. 1862. The mover explained that the case was on all fours with others dealt with in previous sessions.

*Students' Registration.*

On the motion of Sir DYCE DUCKWORTH, seconded by Dr. MACALISTER, a six-page report by the Students' Registration Committee was adopted.

*Unqualified Assistants.*

Mr. TEALE, on behalf of the committee appointed on the previous Thursday to consider certain petitions and communications relating to the Council's new regulations respecting the employment of unqualified assistants, presented a report. He thought it was to be regretted that a subject which had attracted so much attention should have been reached only on the last day of the session, and owing to the hour of the day which had been arrived at he was compelled to speak under great pressure for want of time, and he was consequently afraid he would hardly do justice to the subject matter in hand. When the question of the employment of unqualified assistants was before the Council at their meeting in November last he had tried to get the Council to see that they were making a new departure. He had failed to convince them of that and he maintained still that their resolutions formed an entirely new departure. Certainly it was foreseen that their action must come and he was not saying that the Council were not right in doing what they did, but what he contended was that in introducing such a change they ought to have given sufficiency of notice to all who might be affected by it. It had been his view that it would be reasonable notice if it was decided that the Council's resolutions should not take effect until 1900. He, however, had been overruled on this point also, and the insufficient appreciation accorded to his position on the matter was made clear, he thought, in what had resulted. Many members of the Council had had it brought to their notice that the resolutions had inflicted very great hardships on unqualified assistants and very great inconvenience and some hardships upon medical men who had been using unqualified assistants. A sort of panic had been created among the latter, mainly, however, because they had not quite understood the Council's meaning. Anxious not to do wrong they had read into the Council's resolutions more severe requirements than the Council intended. He did not suppose the Council would now go into a more minute explanation of what was meant and the committee on whose behalf he now spoke did not recommend that they should do so. But in carrying out the new rule he hoped, if the Council did not see their way to go back to his proposal that the resolutions should remain in abeyance until 1900, that they at least would adopt the view of the committee. On examining the documents referred to them the committee had found that the chief questions raised therein might fairly be classified under the following heads:—

1. Whether the Council can consistently with the law authorise the examining bodies to hold special examinations for a particular class of persons who have lately been employed as unqualified assistants.
2. Whether the Council is prepared to suspend the operation of the resolution adopted on Nov. 24th, 1897, in the interest of certain practitioners who state that they are at present unable to obtain qualified assistance in their practice.
3. Whether the Council can take any steps for the reinstatement of certain unqualified assistants who have been dismissed by their employers since the issue of the Council's notice
4. Whether the Council should issue any detailed definitions or explanations as to the extent to which unqualified persons may be "legitimately employed" by registered practitioners.

The committee, Mr. Teale went on to show, had carefully considered these questions and they recommended that the

answers to them by the Council, who should not receive deputations on the subject, should be:—

1. The Council has no power under the Medical Acts to request or to authorise any of the licensing bodies to institute special examinations for a registrable licence other than the "Qualifying Examinations" in Medicine, Surgery, and Midwifery defined by the Act of 1858.

2. There appears to be evidence that at the present moment certain practitioners do find difficulty in obtaining the services of legally qualified assistants. Junior practitioners are no doubt unwilling in many cases to accept the inferior and ill-paid positions which have hitherto been occupied by unqualified men. But it is reasonable to expect that before long improvement in the terms and conditions offered by principals and the natural operation of the economic law of supply and demand will remove the difficulty complained of. The Council cannot regard such a temporary inconvenience as a ground for suspending the operation of a resolution deliberately adopted by it with a view to the repression of fraudulent and dangerous practices.

3. It is not within the province of the Council to take any steps in the direction suggested.

4. The terms of the notice issued by the Council convey with sufficient clearness the limitations which it was intended to place upon the employment in connexion with medical practice of unqualified persons by registered practitioners. The registered practitioner will be liable to proceedings before the Council: (1) if he knowingly allows "such unqualified persons to attend or treat patients in respect of matters requiring professional discretion or skill"; (2) if he thus allows "such a substitution of the services of an unqualified person" for his own, this substitution being "in its nature fraudulent and dangerous to the public health"; (3) if under cover of his own qualifications he knowingly does anything to enable "an unqualified or unregistered person to attend or treat any patient, to procure or issue any medical certificate or certificate of death, or otherwise to engage in medical practice, as if the said person were duly qualified and registered."

The employment of unqualified "dressers, midwives, dispensers, and surgery attendants" can be "legitimate" only (1) if it does not come under one of the foregoing heads, and (2) when it is carried out "under the immediate personal supervision of registered medical practitioners." The Council do not think it necessary or expedient to issue more precise definitions or to lay down regulations intended to meet all the particular cases which may arise. As in all other instances the Council must deal with each case on its merits. Whenever a practitioner is alleged to be making improper use of unqualified assistance the Council will have to be satisfied that the allegation is fully substantiated.

These recommendations were moved one by one by Mr. TEALE and seconded chiefly by Dr. BRUCE. In seconding the last of the four Dr. MACALISTER remarked that if the Council's position was made clearer by it he should be very glad. The sub-headings and definitions had been taken from the notice already issued and in this "No. 4" there was nothing fresh in principle.

The new form for the notice was supported by Mr. BROWN and Mr. HORSLEY and all the four recommendations were unanimously adopted.

It was stated by Dr. MACALISTER, in reply to the PRESIDENT, that these answers would be sent to the persons who had communicated, or might communicate, with the Council on the subject of the employment of unqualified assistants.

*Council Documents.*

Dr. MACALISTER, seconded by Mr. BRYANT, moved:—

That in pursuance of the Council's resolution of May 25th in reference to the inspection of documents, the following chapter be added to the Standing Orders.

XXIII.—INSPECTION OF DOCUMENTS.

1. Members of the Council who desire access to unpublished documents (other than documents relating to Penal Cases) which are the property of the Council shall be required to obtain leave for inspection thereof either from (1) the Council, or (2) the Executive Committee; or (3) if neither body be in session or about to be in session from the President.

2. The application for leave shall be in writing and shall specify so far as is possible the nature of the documents to which access is desired and also the purpose for which the inspection is to be made.

3. Leave to inspect documents relating to penal cases shall not be given except by the Council itself.

4. Documents to which access is permitted under this Standing Order shall not be removed from the offices of the General Council.

5. All information derived from the inspection of the Council's documents under this Standing Order shall be regarded as strictly confidential.

Dr. MACALISTER said that he had added paragraph 4.

Mr. HORSLEY rose to resist this motion because, he said, he was convinced from what he had heard that members of the Council had agreed to the resolution without a full knowledge of the facts. He did not intend to repeat the points raised when Dr. Glover's proposal was under consideration. He had abstained absolutely from taking part in the discussion and division on the proposal, but now that it was proposed to make the resolution into a Standing Order the situation had become too serious to permit it to go forward without at least a protest. Mr. Horsley was proceeding to contend that it was within the rights of members at all times to see the documents belonging to the Council, and that the action of the President in shutting him out from documents, and of the Council under this motion, was *ultra vires*, when

The PRESIDENT informed him that he could not revive the old discussion of Tuesday, May 24th.

Mr. HORSLEY contended that he had a right to speak.

Dr. HERON WATSON pointed out to him that the President had ruled him out of order.

Mr. HORSLEY did not understand that.

The PRESIDENT said that he had ruled Mr. Horsley out of order.

Dr. HERON WATSON moved the previous question.

Dr. MACALISTER: That is an unfortunate proposal, for if it be carried the Council must proceed to the next business on the paper.

On a division the previous question was rejected by 9 votes to 6, and Dr. MACALISTER'S motion was passed by 12 votes to 3.

The PRESIDENT said that as the motion had now become a Standing Order he would make it a rule that the answer to all applications made to him should be given through the Registrar, so that there might be a copy of his answer in the office.

Mr. CARTER suggested that it would be in form if applications to the President were also made through the Registrar.

*Committees.*

The Council proceeded to the appointment of standing committees. The Pharmacopœia Committee was re-appointed, with Dr. Leech as chairman. No change was made in the Finance Committee. Mr. Tomes was appointed a member of the Dental Committee and also of the Dental Education and Examination Committee. Sir William Thomson was put upon the Students' Registration Committee in the place of Dr. William Moore. The other committees were composed as follows:—

EXAMINATION COMMITTEE.—Sir Dyce Duckworth, Mr. Bryant, Mr. Teale, Dr. Heron Watson, Dr. Pettigrew, Dr. McVail, Sir Philip C. Smyly, Sir William Thomson, and Sir Christopher Nixon.

EDUCATION COMMITTEE.—Dr. Mac Alister, Dr. Glover, Dr. Church, Sir John Batty Tuke, Sir William Gairdner, Dr. Reid, Dr. Bennett, Sir William Thomson, and Dr. Little.

PUBLIC HEALTH COMMITTEE.—Sir Richard T. Thorne, Mr. Teale, Dr. Church, Dr. Bruce, Dr. McVail, Dr. Cameron, Mr. Tichborne, Dr. Bennett, and Sir P. C. Smyly.

*The Registrar's Salary.*

It was agreed to increase the salary of the Registrar (Mr. H. E. Allan) from £500 to £600. Mr. Miller, the former Registrar, had, it was stated, a salary of £700 per annum.

This having concluded the business of the session, the Council adjourned till November next.

# Medical News.

ROYAL COLLEGE OF SURGEONS IN IRELAND.—At a meeting of the Fellows of the College on Monday, June 6th, the following were elected for the ensuing year: President: Robert Lafayette Swan, F.R.C.S. Vice-President: Thomas Myles, F.R.C.S. Secretary: Sir Charles A. Cameron, F.R.C.S. Council: Archibald H. Jacob, F.R.C.S.; Edward Hallaran Bennett, F.R.C.S.; Henry Gray Croly, F.R.C.S.; Sir Philip Crampton Smyly, F.R.C.S.; Sir William Stokes; Henry Rosborough Swanzy, F.R.C.S.; William Ireland Wheeler, F.R.C.S.; Sir William Thomson, F.R.C.S.; Austin Meldon, D.L., F.R.C.S.; Sir Charles A. Cameron, F.R.C.S.; L. Hepenstal Ormsby, F.R.C.S.; Richard D. Purefoy, F.R.C.S.; John J. Cranny, F.R.C.S.; Henry Gregg Sherlock, F.R.C.S.; Henry Fitzgibbon, F.R.C.S.; Arthur Henry Benson, F.R.C.S.; Francis T. Heuston, F.R.C.S.; John Lentaigne, F.R.C.S.; and Arthur Chance, F.R.C.S.

UNIVERSITY OF CAMBRIDGE.—The following have been appointed Examiners for the M.B. and B.C. final examinations:—*Medicine:* Dr. Humphry, Dr. Foxwell, Dr. Martin, and Dr. Mitchell Bruce. *Midwifery:* Dr. Cullingworth and Dr. Freeland Barbour. *Surgery:* Mr. Pitts, Mr. Bennett, Mr. Watson Cheyne, and Mr. Golding-Bird. Honorary degrees are to be conferred in connexion with the approaching Congress of Zoology and of Physiology on the following distinguished men of science:—Dr. A. Dohrn, Professor Milne Edwards, Professor Haeckel, Professor Hubrecht, and Professor Kowalevsky, in Zoology; Professor Bowditch, Professor Golgi, Professor Kronecker, Professor Kühne, and Professor Marey, in Physiology.

FOREIGN UNIVERSITY INTELLIGENCE. — *Bonn:* Dr. Albert Peters, Dr. Adolf Schmidt, and Dr. Leonhard Jores, *privat-docenten*, have been granted the title of Professor. Dr. Robert Rieder, *privat-docent* of Surgery, has been appointed Extraordinary Professor.—*Breslau:* Dr. Henke of Tubingen has been recognised as *privat-docent* of Pathological Anatomy.—*Cracow:* Dr. Klecki has been appointed Extraordinary Professor of General and Experimental Pathology.—*Halle:* Dr. Kurt Heilbronner has been recognised as *privat-docent* of Psychiatry.—*Munich:* Dr. R. Hecker has been recognised as *privat-docent* of Pædiatry.—*Rio de Janeiro:* Dr. Joaquim Xavier Pereira da Cunha has been appointed Professor of Clinical Ophthalmology.—*New York (College of Physicians and Surgeons):* Dr. Edwin B. Cragin has been appointed Lecturer in Midwifery.—*St. Petersburg (Military Medico-Chirurgical Academy):* Dr. Kirikoff has been recognised as *privat-docent* of Internal Medicine and Dr. Mikhnoff as *privat-docent* of Midwifery and Gynæcology.—*Budapest:* Dr. Ludwig Makara has been recognised as *privat-docent* in Surgery, Dr. Géza Krepuska as *privat-docent* in Otology, Dr. Desider von Kuthy as *privat-docent* in Hydrotherapy, and Dr. Ludwig Nékám as *privat-docent* in Dermatology.

WIGAN MEDICAL SOCIETY.—A meeting of this society was held on April 5th.—The President (Mr. Berry) read his opening address on the Sanitary Progress in Wigan during the last Thirty Years.—In moving a vote of thanks to the President for his address Mr. William Mitchell Roocroft said that it was advisable for each sanitary authority to have a bacteriological assistant employed in its public health department. This met with the approval of the members present. The following cases were exhibited by members of the staff of the infirmary: (1) Fracture of the Patella; (2) Double Inguinal Hernia; Radical Cure; (3) Lumbar Colotomy for Cancer of the Rectum; (4) Compound Fracture; Excision of the Malleoli; (5) Severe Lacerated Wound of the Arm; (6) Resection of the Inferior Maxilla; and (7) Talipes, Equino-varus.—A meeting was also held on June 2nd, Mr. Berry (President) being in the chair, and there was a good attendance of members.—Dr. Charles Macalister, honorary physician to the Stanley Hospital, Liverpool, gave an address on Osteo-arthritis, illustrated by lantern demonstrations of the disease and of radiographs taken from interesting cases, which came out well on the screen.—The lecture was much appreciated and a discussion followed, Dr. R. Prosser White, Dr. Blair, and Dr. Benson taking part in it. A hearty vote of thanks was accorded to Dr. Macalister, on the proposition of Mr. Graham, seconded by Mr. Brady.

PRESENTATIONS TO MEDICAL MEN.—Mr. R. Buttercase, M.B. Glasg., was the recipient, on May 14th, from the members of the ambulance class at Benton-square, Newcastle-on-Tyne, of a marble timepiece as a mark of esteem.—Mr. Ian G. Sibbald, M.B. Edin., of the Northern Infirmary, Inverness, who has been appointed to the Stirling Hospital, was presented on May 12th with a testimonial from the matron and nursing staff of the infirmary, which took the form of a silver curling-stone and requisites in silver and two silver ash trays.—On May 17th, at the Victoria Hall, Auchtermuchty, in the presence of a large assembly of friends and residents of the district, Mr. W. F. MacDonald, M.B. Edin., was presented, on the occasion of his leaving Auchtermuchty after thirteen years' professional service there with a silver bowl on an ebony stand, bearing a suitable inscription, and a purse of sovereigns, as tokens of goodwill and regard.—Mr. William Edwin Williams, F.R.C.S. Edin., J.P., the medical officer of health of Abertillery (Mon.), has been presented with a dessert service and a set of dessert knives and forks on the occasion of his marriage.—At a social meeting on May 26th at Reading Mr. David T. Key, M.R.C.S. Eng., of that town, who has been the honorary instructor for the past four years of the local branch of the St. John Ambulance Brigade, was presented, on his leaving Reading, with a gilt mounted inkstand and a gold "Swan" fountain pen as tokens of appreciation of his gratuitous services.—On May 31st Mr. William Christie, M.B., C.M. Aberd., of Woodside, was the recipient from friends in the district of an illuminated address and several volumes of medical works on his leaving that locality.—On the same day Mr. George M. Robertson, M.B., F.R.C.P. Edin., medical superintendent of the District Asylum, Murthly, Perth, was presented by the staff, on the occasion of his marriage, with a revolving writing-desk and blotting-pad.—At the recent distribution of certificates in connexion with the St. Buryan (Cornwall) ladies' branch of the St. John ambulance class, Mr. Ashley T. Jago, L.R.C.P. Lond., M.R.C.S. Eng., was presented with an inkstand suitably inscribed in appreciation of his services as honorary lecturer.—The medallions and certificates awarded to members of the St. John ambulance classes held in connexion with the Great Western Railway at Plymouth were distributed on June 3rd by Mrs. Adye, wife of the divisional superintendent. After the distribution the secretary (Mr. Evans), on behalf of the class, presented Mr. W. A. Buchan, M.B., C.M. Edin., with a silver-mounted walking-stick in appreciation of his services as honorary lecturer.

NEWTON ABBOT COTTAGE HOSPITAL.—Mr. W. S. Penley recently gave a dramatic performance at Newton Abbot in aid of the funds of the cottage hospital, with the result that the institution benefited to the amount of £43.

MRS. JACKSON desires to express through THE LANCET her very sincere thanks to all those who, by their interest and votes, secured her son's election to the Royal Medical Benevolent College on the 27th ult.

ROYAL MEDICAL BENEVOLENT COLLEGE.—The following are the names of the successful candidates at the recent election for pensionerships and foundation scholarships:—Pensioner: Henry Morrison, 3539 votes. Foundation Scholars: John B. Rankin, 8195 votes; Horace D. Sawtell, 8172 votes; Vyvyan St. A. Phillips, 7860 votes; Clarence Francis Quin, 7312 votes; Frank H. Wilson, 6555 votes; Lancelot R. Jackson, 6286 votes; Wm. Arnold Stables, 4670 votes; and Wm. R. Ward, 4600 votes.

THE LATE DR. H. MARSHALL.—A meeting at which the Dean of Bristol presided was held on May 29th for the purpose of initiating a movement for perpetuating the memory of the late Dr. Henry Marshall, and on the motion of the Roman Catholic Bishop of Clifton it was unanimously resolved that the memorial should commemorate Dr. Marshall's connexion with the Bristol General Hospital. A committee was appointed to consider the form which the memorial should take.

THE MARY WARDELL CONVALESCENT HOME FOR SCARLET FEVER, STANMORE.—With the exception of the Metropolitan Asylums Board Hospitals this is the only home which receives persons recovering from scarlet fever. It is to be hoped, therefore, that the efforts which are being made to raise a sum of £2000 in order to clear off the debt and to provide for the thorough cleansing and repairing of the home will meet with success. Contributions may be sent to Messrs. Barclay and Co., 1, Pall-mall East, S.W., and to Miss Mary Wardell, hon. secretary, Stanmore, Middlesex.

THE LATE DR. WRIGHT OF WAKEFIELD.—The celebration of a golden wedding is an event so comparatively unusual that it is due to the memory of Dr. T. G. Wright of Wakefield, whose obituary we published in THE LANCET of June 4th, to mention that he and Mrs. Wakefield were many years ago the principal figures on such an auspicious occasion. Dr. Wright commenced practice in Wakefield in 1833 and in 1835 he married a Miss Hubbard of Leeds, by whom he had thirteen children. Mrs. Wright died in October, 1890, in her seventy-eighth year. When the time for the golden wedding arrived Dr. Wright's medical brethren entertained him at dinner and presented him with a silver kettle. He was also some years later the recipient of a testimonial consisting of nine hundred guineas.

LITERARY INTELLIGENCE. — Among the new books shortly to be issued by Messrs. J. & A. Churchill, the following may be mentioned:—A work on Ovariotomy and Abdominal Surgery, by Mr. Harrison Cripps, the scope of which may be gathered from the following extract from the preface: "The chief object of this work is to record only such operative details as I have found valuable in my own experience, for without the book running into a larger scope than was intended it is impossible to describe in detail the various methods adopted by other operators"; a Treatise on the Mental Affections of Children — Idiocy, Imbecility, and Insanity — by Dr. W. W. Ireland; a second edition of the Attendant's Companion, a manual of

the duties of attendants in lunatic asylums, by Dr. Charles Mercier; a second edition of Lectures on Medicine to Nurses, by Dr. Herbert Cuff, which will include two new lectures, namely on Dropsy, and on Diseases of Children; and the ninth edition of Valentin's Practical Chemistry, Qualitative and Quantitative Analysis, by Dr. Hodgkinson, Professor of Chemistry in the Royal Academy, Woolwich.

ROYAL MICROSCOPICAL SOCIETY.—There will be an exhibition of sponges by Mr. B. W. Priest at the next meeting of the society on Wednesday evening, June 15th, at 7 30, at 20, Hanover-square, W.

# Parliamentary Intelligence.

## NOTES ON CURRENT TOPICS.

*The Plague in India.*

IN the House of Commons on Tuesday, June 7th, Lord George Hamilton, Secretary of State for India, made a statement with regard to the general condition and finances of the Indian empire. As to the plague, he said we are now at a time of the year when this terrible disease is least destructive in its ravages and when it is most easily kept under control; but while saying this there was no use disguising the fact that in spite of the vigilance and exertions of the local authorities the plague had made great ravages during the past six months. Every effort had been made by the Government to prevent its spread and no pains had been spared to reassure the people as to the measures to be adopted for its suppression and to secure if possible their coöperation. In many districts, he said, they have heartily coöperated and with successful results.

*Corporal Punishment in Prisons.*

During the week this question has been considered in two connexions. On Tuesday the House had before it a private Member's Bill in which it was proposed to prohibit personal correction altogether, but the House declined by 112 votes to 38 to give it a second reading. In the Grand Committee on Law the Home Secretary brought up a clause for insertion in the Prisons Bill of the Government providing that the prison rules issued by the Home Office shall not authorise the infliction of corporal punishment except in case of mutiny or incitement to mutiny or gross personal violence to an officer or servant of the prison and after there has been a formal inquiry on oath before not less than three members of the Board of Visitors or Visiting Committee of the prison. Several members of the committee, including Mr. Asquith, the late Home Secretary, expressed themselves in favour of a judicial tribunal of some sort and an open inquiry, and Sir M. White Ridley undertook before the report stage of the Bill to see whether something cannot be done in this direction.

## HOUSE OF COMMONS.

MONDAY, JUNE 6TH.

*Chest Measurement of Recruits.*

Sir Charles Dilke asked the Under Secretary of State for War why there had been omitted from the annual reports of the Army Medical Department for 1895 and 1896 the average chest measurement of the total number of recruits approved in the year, always given in previous years, and whether the missing statement for the two years could be supplied.—Mr. Brodrick replied: The returns hitherto rendered showed chest measurements exceeding 35 in. in one group as measurements above 35 in. without giving details, and in calculating the average these have been taken as being all 35 in. This does not represent the true average and an alteration has been made so as to approximate to it more nearly. The report for 1897 will show an average calculated in this manner. The averages for 1895 and 1896, worked out on a basis similar to previous calculations, were in each year 33·7 in., as compared with 33·6 in. in 1893 and 1894.

TUESDAY, JUNE 7TH.

*Phosphorus Poisoning in the Match Trade.*

Mr. Tennant asked the Home Secretary whether he was aware that in France the Government issue of lucifer matches to strike everywhere was marked "sans phosphore"; and whether, in view of the serious disclosures revealed by the recent prosecution of Messrs. Bryant and May and the statement by that firm that it was only for the manufacture of the matches which strike everywhere that yellow phosphorus was required, he would confer with the French Government with a view to prohibiting the use of yellow phosphorus.—Mr. Provand, Mr. Holland, and Mr. Steadman asked questions on the same subject. — Mr. Charles McArthur asked the right hon. gentleman whether he was aware that the danger of phosphorus poisoning might be obviated by modern machinery capable of making, drying, and boxing the matches without close proximity to the worker, and whether, before taking the drastic course now suggested, he would make inquiries as to the system adopted in other match factories than those of Bryant and May.—Sir M. White Ridley said: In answer to the last question I have to say that I am, through the inspector of factories, aware of the machinery and appliances to which the hon. Member alludes, and so far I have had nothing but satisfactory accounts of them. But it is too early to give any conclusive opinion about them. I have already stated that I am making inquiries as to the use of yellow phosphorus in France and other foreign countries. The suggestion of a conference seems to me to be somewhat premature at the present stage. I may also say, in reply to the questions of the hon. Members for Glasgow and Stepney on the same subject, that the prosecution they refer to was ordered by me and is the result of inquiries made by the factory inspectors at my request. I am now considering what further steps I shall take in the matter, particularly in the direction of strengthening the special rules and securing additional medical inspection; but though I have power to regulate I have none to prohibit the use of yellow phosphorus. I should like it to be clearly understood that the medical man who failed so seriously in his duty in this case was the works doctor and not the certifying surgeon. The latter, who, I may say emphatically, by the nature of his appointment, is a perfectly independent medical man, was in no way concerned in this case and had no power to intervene. The answer to the remaining question is that the lady inspectors have their headquarters in London and their services are available in the fullest manner for the inspection of the match factories in the London district.—Mr. John Burns asked whether the Home Secretary would lay the conduct of the works doctor before the Royal College of Surgeons.—Sir M. White Ridley said he must ask for notice of this question and assured the House that the whole subject was receiving his most anxious consideration.—Mr. Burns intimated that he would repeat his question on another occasion.

*Lead Poisoning in the Potteries.*

Mr. Hedderwick asked the Home Secretary whether, having regard to the large number of women and children employed and subjected to the risk of slow poisoning by lead in English potteries, he would consent to appoint a lady inspector for the purpose of protecting as far as may be the interests of these workers in their unhealthy and dangerous occupation, and whether he could see his way to prohibit the use of lead in glazing processes in potteries altogether or to bring such processes within the scope and operation of the Workmen's Compensation Act.—Sir M. White Ridley replied: The hon. Member is evidently unaware that the existing staff of lady inspectors has already done most useful work in the Potteries district and will continue to be available in future as often and for as long as may be necessary. I am most sensible of the value of inspection by women in this industry and shall not hesitate to increase the staff if I find it necessary, though the most urgent need in the dangerous trades appears to me to be the appointment of a medical inspector, a matter which I am carefully considering. I am in hope that the use of dangerous glazes will diminish, and, as the hon. Member must remember, I have appointed experts to inquire into the subject, and am making inquiries abroad. I have no power, however, to prohibit the use of lead entirely. The extension of the Workmen's Compensation Act which the hon. Member suggests would require legislation which I am not prepared to propose; but I trust that the new special rules will materially diminish the dangers to which the workpeople are exposed.—Mr. Tennant asked whether the House was to understand that he had definitely decided to increase the number of lady inspectors.—Sir M. White Ridley replied: No, sir, I have not said that, but the whole question of the increase of the staff has been under consideration for some months and a good deal depends on what is done in a medical direction.

WEDNESDAY, JUNE 8TH.

*Pharmacy Acts Amendment Bill.*

This Bill was passed through the committee stage and read a third time. The object of the Bill is to alter in several respects the constitution of the Pharmaceutical Society—for instance, to make persons registered as apprentices or students eligible to become student associates of the society and to make those whose names appear on the register of chemists and druggists eligible to become members of the society. When the Bill was in committee several members, including Dr. Farquharson and Dr. Clark, took advantage of the opportunity to press upon the Government the necessity of introducing a Bill on the subject of the sale of poisons and Colonel Brookfield, speaking as the Member in charge of the Bill, said he would invite the Pharmaceutical Society to coöperate with the Government in any attempt they may make to further safeguard the sale of poisons in the interest of the public.

# Appointments.

***Successful Applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.***

BURGES, R. E., M.D., M.Ch. Dubl., has been re-appointed Medical Officer of Health by the Hoole Urban District Council.

DEARDEN, C. R., L.R.C.P., L.R.C.S. Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the No. 2 Sanitary District of the Ecclesall Union, vice J. H. Wilson, resigned.

ELLIS, H. D. A., L.R.C.P. Edin., M.R.C.S., has been appointed Medical Officer of Health by the Amblecote Urban District Council.

FLINN, D. E., M.R.C.P., F.R.C.S. Irel., D.P.H., has been appointed a Medical Inspector by the Local Government Board for Ireland.

GREY, J. T., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Fourth Sanitary District of the Hollingbourn Union.

HIGGINSON, C. G., L.R.C.P. Lond., M.R.C.S., has been appointed Senior Resident Medical Officer for the Workhouse by the Chorlton Board of Guardians, vice G. Ashton, resigned.

JACKSON, T. VINCENT, F.R.C.S. Edin., M.R.C.S., has been appointed Consulting Surgeon to the Orphan Asylum, Wolverhampton.

LEWIN, OCTAVIA M. S., M.B., B.S. Lond., has been appointed a Junior Resident Medical Officer for the Workhouse by the Chorlton Board of Guardians.

MARKS, E. G. K., M.D., L.R.C.S., L.K.Q.C.P. Irel., has been appointed a Medical Officer at Herberton, Queensland, vice L. G. A. MacDonnell.

MARTIN, JAMES, L.R.C.P., L.R.C.S., L.F.P.S. Glasg., has been appointed a Health Officer for Black Flag, Western Australia.

MATTHEWS, T., L.R.C.P., L.R.C.S. Edin., has been appointed a Government Medical Officer and Vaccinator for the districts of Shoalhaven, Nowra, and Terara, New South Wales, vice J. B. Brereton.

MCILROY, A. J., M.B., C.M. Edin., has been appointed a Public Vaccinator for Brunnerton, New Zealand.

MCKEE, J. C., L.R.C.P., L.R.C.S. Edin., has been appointed Officer of Health and Public Vaccinator for the Borough of Eaglehawk, Victoria, Australia, vice L. J. Thom.

MONTGOMERY, J. P., M.B., Ch.B. Melb., has been appointed Officer of Health for the Shire of Rosedale, Toongabbie Riding, Victoria, Australia.

MORRIS, W., M.D. Erlang., has been appointed a Public Vaccinator for Little River, New Zealand.

MURRAY, G. L., M.B., M.Ch. Syd., has been appointed a Medical Officer for the Mount Morgan Hospital, Queensland.

MYERS, CHAS. J., M.R.C.S., has been appointed Medical Officer of Health by the Louth Rural District Council.

PIM, J., F.R.C.S., L.R.C.P. Irel., has been appointed a Medical Officer to the Royal Irish Constabulary of the Ballybrack and Cabinteely District, vice C. C. Mayne, resigned.

PLAYER, C. R., M.B., Ch.B. Melb., has been appointed Officer of Health for the Shire of Melton, East Riding, Victoria, Australia, vice N. C. A. Vance, resigned.

REYNOLDS, FRANCIS MORTIMER, M.B., C.M. Edin., has been re-appointed Medical Officer of Health by the Ottery St. Mary Urban District Council.

ROUGHAN, J. A., M.B., B.S. Irel., has been appointed a Resident Medical Officer for the Williams District and a Public Vaccinator for the Urban, Suburban and Rural Districts of Williams, Western Australia.

SIMPSON, D., M.B., Ch.M. Glasg., has been appointed Officer of Health for the Shire of Fern Tree Gully, Victoria, Australia, vice W. J. Craig, resigned.

SMITH, S. C. T., M.B., B.S. Irel., L.R.C.P. Lond., M.R.C.S., has been appointed an Honorary Medical Officer for the Hospital, Mount Morgan, Queensland.

SPENCE, H., M.B., Ch.B. Melb., has been appointed, pro tem., Officer of Health for the City of Footscray, and for the Shire of Braybrook, Victoria, Australia, and also Acting Public Vaccinator for Footscray.

SPRAKELING, R. J., M.R.C.S., L.S.A., has been re-appointed Medical Officer of Health for the Borough of Bootle.

THARE, JOHN, M.B., B.S., Victoria Univ., Manchester, has been appointed a Public Vaccinator for the District of Wellington, New Zealand.

WILLIAMS, SAMUEL, M.D., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Llanelly School Board.

# Vacancies.

*For further information regarding each vacancy reference should be made to the advertisement (see Index).*

CARDIFF INFIRMARY.—Assistant House Physician for six months. Board, washing, and apartments, and an honorarium of £10.

CLAYTON HOSPITAL, Wakefield.—Junior House Surgeon, unmarried. Salary £60 per annum, with board, lodging and washing.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W. — Resident Medical Officer for twelve months. Salary £60 per annum, with board, lodging, and washing.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL AND DISPENSARY, Chesterfield.—Resident House Surgeon for two years. Salary £100 per year, with board, apartments, and laundress.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—House Physician for six months. Salary at the rate of £30 per annum, with board and residence.

DONCASTER GENERAL INFIRMARY AND DISPENSARY.—In-door Dispenser and Assistant to the House Surgeon. Board, lodging, and washing provided.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark-bridge-road, S.E.—Senior Resident Medical Officer. Salary £70, with board and washing.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, London.—Junior House Physician for six months. Board and lodging in the hospital provided.

HOSPITAL OF ST. FRANCIS, 145, New Kent-road, London.—Second Honorary Assistant Surgeon and Honorary Assistant Physician and two Clinical Assistants.

LINCOLN COUNTY HOSPITAL, Bank-street, Lincoln.—Assistant House Surgeon for six months. Honorarium £10, with board, residence, and washing.

METROPOLITAN ASYLUMS BOARD.—Assistant Medical Officer for the Gore Farm Convalescent Small-pox and Fever Hospital, Darenth, near Dartford, Kent, unmarried. Salary £160 the first year, £180 the second year, and £200 the third and subsequent years of service, with board, lodging, and washing, subject to statutory deduction. Applications to the Clerk to the Board, Norfolk House, Norfolk-street, Strand, W.C.

NORFOLK AND NORWICH HOSPITAL, Norwich.—House Physician for two years, unmarried. Salary £60 per annum, with board, lodging, and washing.

NOTTINGHAM CITY ASYLUM.—Second Assistant Medical Officer, unmarried. Salary £100, with apartments, board, and washing.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—Honorary Anæsthetist for twelve months.

QUEEN CHARLOTTE'S LYING-IN HOSPITAL, Marylebone-road, London.—Assistant Resident Medical Officer for four months. Salary at the rate of £50 per annum, with board, residence, and washing.

RIPON DISPENSARY AND COTTAGE HOSPITAL, Ripon.—Resident House Surgeon and Dispenser, unmarried. Salary £50 first year and £70 second year, with board and lodging.

ROYAL LONDON OPHTHALMIC HOSPITAL, Moorfields, E.C.—Assistant Surgeon.

ROYAL INFIRMARY, Sheffield.—Vacancy on the Honorary Surgical Staff.

ST. BARTHOLOMEW'S HOSPITAL AND COLLEGE, London.—Assistant Demonstrator of Chemistry.

ST. LUKE'S HOSPITAL, London, E.C.—Clinical Assistant for six months. Board and residence provided.

ST. MARYLEBONE GENERAL DISPENSARY, 77, Welbeck-street, London.—Resident Medical Officer. Salary 100 guineas per annum, with an annual increase of 10 guineas to a maximum of 120 guineas, with furnished apartments, attendance, coal, and light.

SCHOOL BOARD FOR LONDON, Victoria-embankment, W.C.—Medical Practitioners to give lectures in First Aid and Home Nursing to the pupils of the Evening Continuation Schools. Fee 3 guineas for a course of six lectures.

SHEFFIELD PUBLIC HOSPITAL FOR DISEASES OF THE EAR, THROAT, AND SKIN, Sheffield.—Honorary Physician.

SHEFFIELD ROYAL HOSPITAL.—Honorary Ophthalmic Surgeon.

WEST RIDING ASYLUM, Wakefield.—Pathologist. Salary £150, increasing to £200.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL, Wolverhampton.—House Surgeon and to act as Surgical Registrar. Salary £100 a year, with board, lodging, and washing.

WORCESTER GENERAL INFIRMARY.—Assistant House Surgeon and Dispenser for two years, unmarried. Salary £70 per annum, with board, residence, and washing.

YORK DISPENSARY.—Resident Medical Officer, unmarried. Salary £150 a year, with furnished apartments, coals, and gas. Applications to Mr. W. Draper, De Grey House, York.

# Births, Marriages, and Deaths.

## BIRTHS.

ANDREW.—On June 5th, at Hethersett, Hendon, the wife of F. W. Andrew, M.R.C.S., L.R.C.P., of a daughter.

BOYD.—On June 3rd, at Portishead, Somerset, the wife of George Boyd, M.R.C.S., L.R.C.P. Lond., of a son.

COOPER.—On June 7th, at Belmont, Lyme Regis, Dorset, the wife of H. J. Cooper, M.A., M.B. Cantab., of a daughter.

CUTFIELD.—On June 6th, at Merton House, Ross, Herefordshire, the wife of Arthur Cutfield, B.A., B.Sc., M.R.C.S., of a daughter.

DAVIS.—On June 7th, at Sunnydene, Sidcup, Kent, the wife of G. W. Davis, M.D. Durh., of a son.

EMMETT.—On June 3rd, at Woodville, Kingston-road, Portsmouth, the wife of Richard Emmett, M.R.C.S. Eng., L.R.C.P. Lond., of a son.

HAUGHTON.—On May 29th, at Truro, the wife of J. Welby Haughton, L.R.C.P., of a daughter.

JONES.—On June 5th, at Pen-y-bank, Clydach, Swansea, the wife of J. Jones, M.D., B.S. Lond., of a son.

OWEN.—On June 3rd, at St. Alban's Place, Blackburn, the wife of O. Trafford Owen, M.B. Edin., of a daughter.

## MARRIAGES.

BATES—SPEAKMAN.—On June 2nd, at Faulkbourne, by the Rev. Stephen Penney, John Edwin Bates, M.B. Cantab., of Wimbledon, son of the late William Bates, M.D., F.R.C.S., of Manchester, to Marion, youngest daughter of the late Thomas Speakman of Faulkbourne-hill, Witham, Essex.

BELL—BELL.—On June 7th, at St. Mark's, Surbiton, Wm. Blair Bell, M.B. Lond., M.R.C.S., L.R.C.P., second son of Wm. Bell, of New Brighton, to Florence, second daughter of James Bell, of Surbiton.

CLARK—KERR.—On June 7th, at Nelson-terrace, Glasgow, Allan Aiken Clark, M.B., C.M., Sheffield, to Alexandra Tarbat (Lily), second daughter of the late James Kerr, Solicitor to the Caledonian Railway Company.

DRAKE—WARNER.—On June 7th, at St. Peter's, Eaton-square, Courtenay H. Drake, F.R.C.S., of Rathgar Cottage, Streatham, to Ellen Mary, daughter of William H. Warner of Buckingham Palace-gardens, S.W.

FOX—FOX.—On June 2nd, at the Friends' Meeting House, Plymouth, George R. Fox, F.R.C.S., of Beccles, Suffolk, to Constance M., youngest daughter of Francis E. Fox, Uplands, Tamerton Folliot, Devon.

FRITH—STYLES.—On June 2nd, at the Parish Church, Swanscombe, Kent, by the Rev. W. A. Frith, M.A. Oxon., rector of Welby, Lincs, father of the bridegroom, assisted by the Rev. F. Auriol Murray, M.A. Oxon., Vicar of St. Peter's, Rickmansworth, and the Rev. Hugh C. Frith, B.A. Cantab., Walter S. Frith, M.B. Cantab., of The Limes, Rickmansworth, to Caroline Elsie, daughter of the late George Gaviller Styles, of Knockhall, Greenhithe, Kent.

GARDINER—FELL.—On June 2nd, at Christ Church, Crouch-end, Douglas Clark Gardiner, M.B., C.M. Edin., Queen's-avenue, Muswell-hill, to Ada Mary Ann, eldest daughter of Robert Fell, of Coolhurst-road and Aldersgate-street, E.C.

GRANT-WILSON—JENKIN.—On June 2nd, at St. James's, Swansea, by the Rev. Canon Roberts, of Llandaff (uncle of the bride), assisted by the Rev. Chancellor Smith, Vicar of Swansea, and the Rev. F. Millar, Curate-in-charge, Charles Westbrooke Grant-Wilson, of Bromley, Kent, elder son of George Grant-Wilson, of Heathfield House, Streatham-common, Surrey, to Lilian Frances, only daughter of the late Rev. Albert Jenkin, of Harbridge, Hants, and Mrs. Jenkin of The Mirador, Swansea.

PHILLIPS—GALE.—On June 1st, at St. Barnabas Church, Clapham, Percy C. Phillips, M.R.C.S., L.R.C.P., of Vine House, Grantham, to Dida Gale, daughter of E. Gale, Esq., of Bridport.

## DEATHS.

WELCH.—On May 25th, at Perak, Straits Settlements, John L. Welch, M.A., M.B. Edin., second son of the late Rev. John Welch, Jamaica.

YOUNG.—On June 4th, at Hounslow, Edward Young, M.D. (late of Salisbury), in his 78th year. No flowers by special request.

*N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.*

## METEOROLOGICAL READINGS.

*(Taken daily at 8.30 a.m. by Steward's Instruments.)*

THE LANCET Office, June 9th, 1898.

| Date. | Barometer reduced to Sea Level and 32° F. | Direction of Wind. | Rainfall. | Solar Radia in Vacuo. | Maximum Temp. Shade. | Min. Temp | Wet Bulb. | Dry Bulb. | Remarks at 8.30 A.M. |
|---|---|---|---|---|---|---|---|---|---|
| June 3 | 30·00 | W. | ... | 111 | 66 | 46 | 50 | 55 | Fine |
| ,, 4 | 29·99 | WNW | ... | 94 | 64 | 51 | 53 | 57 | Cloudy |
| ,, 5 | 29·95 | WSW | ... | 116 | 75 | 52 | 56 | 61 | Fine |
| ,, 6 | 29·79 | S. | 0·14 | 98 | 70 | 56 | 62 | 67 | Fine |
| ,, 7 | 30·02 | WNW | ... | 106 | 74 | 55 | 56 | 61 | Fine |
| ,, 8 | 30·06 | S.E. | 0·01 | 80 | 69 | 56 | 57 | 64 | Cloudy |
| ,, 9 | 30·06 | N.E. | ... | 81 | 65 | 59 | 59 | 63 | Overcast |

# Medical Diary for the ensuing Week.

## OPERATIONS.

### METROPOLITAN HOSPITALS.

**MONDAY** (13th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M., Ophthalmic 1.15 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), Westminster (2 P.M.).

**TUESDAY** (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.).

**WEDNESDAY** (15th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.).

**THURSDAY** (16th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.).

**FRIDAY** (17th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M., Ophthalmic 10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.).

**SATURDAY** (18th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

## SOCIETIES.

**TUESDAY** (14th).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Dr. R. Bradford and Dr. H. B. Shaw: Five Cases of Acute Leukæmia.—Dr. A. P. Luff: The Influence on Gout of the Mineral Constituents of Various Vegetables. Dr. N. Moore will show a Case of Displaced and Moveable Kidney.

**WEDNESDAY** (15th).—NORTH-WEST LONDON CLINICAL SOCIETY (North-West London Hospital).—8.30 P.M. Monthly Demonstration of Cases.

## LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

**MONDAY** (13th).—LONDON POST-GRADUATE COURSE.—London Throat Hospital, Gt. Portland-st., W., 8 P.M., Dr. Whistler: Catarrhal Conditions of the Nose and Throat.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Mr. Wyatt Wingrave: The Origin and Nature of Polypi of the Nose, Throat, and Ear.

**TUESDAY** (14th).—ROYAL COLLEGE OF PHYSICIANS.—5 P.M. Dr. S. Martin: The Chemical Products of Pathogenic Bacteria considered with special reference to Enteric Fever. (Croonian Lecture.)

LONDON POST-GRADUATE COURSE.—Hospital for Skin Diseases, Blackfriars, 4.30 P.M., Dr. Abraham: Nævi.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Bloomsbury).—3.30 P.M. Mr. M. Gunn: Lecture.

CITY ORTHOPÆDIC HOSPITAL.—5.30 P.M. Mr. J. Poland: Deformities of Bones after Injury.

LONDON SKIN HOSPITAL (40, Fitzroy-square, W.).—4 P.M. Mr. A. Harbord: Syphilis.

WEST-END HOSPITAL FOR DISEASES OF THE NERVOUS SYSTEM (73, Welbeck-street).—4.30 P.M. Mr. H. W. Dodd: On Disorders of Vision in relation to Diseases of the Nervous System.

**WEDNESDAY** (15th).—LONDON POST-GRADUATE COURSE.—Parkes Museum, Margaret-st., W., 4.30 P.M., Prof. A. Wynter Blyth: Infectious Diseases.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Arkle: Aortic Valvular Disease.

WEST LONDON POST-GRADUATE COURSE (West London Hospital, W.).—5 P.M. Mr. McAdam Eccles: Femoral Hernia.

**THURSDAY** (16th).—ROYAL COLLEGE OF PHYSICIANS.—5 P.M. Dr. S. Martin: The Chemical Products of Pathogenic Bacteria considered with special reference to Enteric Fever. (Croonian Lecture.)

LONDON POST-GRADUATE COURSE.—Central London Sick Asylum, Cleveland-st., W., 5.30 P.M., Dr. P. Manson: Clinical Lecture.

CHARING-CROSS HOSPITAL.—4 P.M. Dr. M. Murray: Demonstration of Medical Cases. (Post-graduate Class.)

THE HOSPITAL FOR SICK CHILDREN (Gt. Ormond-street, W.C.).—4 P.M. Mr. Kellock: Demonstration of Selected Cases.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL (Gray's Inn-road, W.C.)—5 P.M. Dr. D. Grant: Diseases of the Antrum of Highmore.

**FRIDAY** (17th).—LONDON POST-GRADUATE COURSE.—King's College 3 to 5 P.M., Dr. Wilkinson: Erysipelas and Suppuration.

# Notes, Short Comments, and Answers to Correspondents.

## EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

*It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.*

*Lectures, original articles, and reports should be written on one side of the paper only*, AND, WHEN ACCOMPANIED BY BLOCKS, IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

*Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.*

*We cannot prescribe or recommend practitioners.*

*Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."*

*Letters relating to the publication, sale, and advertising departments of* THE LANCET *should be addressed "To the Manager."*

*We cannot undertake to return MSS. not used.*

## MEDICAL DISPENSARIES IN LANCASHIRE WANTED.

*Soulby's Ulverton Advertiser* of June 2nd publishes in a leading article a plea for self-supporting proprietary dispensaries for the very poor in Lancashire villages, where "doctors and trained nurses ..... are practically unknown." There are besides the very poor, the writer points out, those who cannot afford to run a bill for attendance but who are really in need of skilled medical advice; yet between the private practitioner whom they cannot afford to pay and the chemist who will charge 1*d.* for a box of pills there is no intermediate refuge. It is suggested that the working man of this class would often be saved from a premature grave if he could obtain medical advice for about 1*s.* 6*d.* per week. That the writer does not wish to encourage the abuse of cheap medical practice is evident from the following paragraph: "Of course the man who can easily spare half-a-guinea will go to his private medical man; and if he does not he ought to, for medical men have to keep up expensive establishments, in addition to which their mental training has cost them many years of study and has been a considerable expense, for which they ought to be recouped by those who are well able to pay."

## "THE LADY DISPENSER."

*To the Editors of* THE LANCET.

SIRS,—In reply to "M.D. Lond." (THE LANCET, June 4th) I am writing to say that there is a College and Pharmacy for Ladies at 7, Westbourne-park-road which has been established for some years. The lady dispensers educated there find no difficulty in getting appointments. Any particulars can be obtained from the Secretary.

I am, Sirs, yours faithfully,

June 6th, 1898. A LADY DISPENSER.

## THE LATE MR. ARTHUR JEFFARES BARLOW: A SECOND APPEAL.

AN appeal was made in these columns a month ago by certain medical men to their fellow practitioners and others on behalf of the young widow of Mr. Arthur Jeffares Barlow, who died suddenly on March 11th last at the early age of thirty-seven years. We have been asked to repeat this appeal, which resulted in the collection of the sum of £32 11*s.*, in the hope that a few more subscriptions may accrue for Mrs. Barlow's benefit. Arthur Jeffares

Barlow was the eldest and only surviving son of the late Frederick Archer Barlow of 14, North Great George-street, Dublin, and will be remembered by many old friends and fellow students at Trinity College, Dublin. Unfortunately his position through ill health prevented his making any provision for his widow, who is without any means whatever and has no friends to assist her. She is in delicate health caused by long strain of nursing her husband and the shock of his sudden death. It is hoped that a generous response will be made to the appeal and that substantial aid may be given to such a sad and deserving case. Subscriptions will be received by Dr. J. W. Moore, 40, Fitzwilliam-square West, Dublin; Dr. John Barton, 28, Upper Merrion-street, Dublin; Dr. C. J. Clibborn, 76, Owen-terrace, University-street, Belfast; Dr. L. H. Ormsby, 92, Merrion-square West, Dublin; Dr. Henry, 2, Lewisham-park, Lewisham, London; and Dr. A. Matson, 619, Holloway-road, London. To the subscriptions which have been from time to time announced in our columns the following should be added:—Per Dr. Moore: Acquaintance, Dublin, £1; Freemason, Godalming, 10s.

## "THE VALUE OF A DIPLOMA IN PUBLIC HEALTH."

*To the Editors of* THE LANCET.

SIRS,—In THE LANCET of May 28th in an annotation under the above heading you relate a case in Essex where at an election of medical officer of health the holder of a D.P.H. was passed over and the appointment given to one who had no public health diploma. The same thing has occurred recently in this the opposite side of England. A rural sanitary council advertised for a medical officer of health. I applied, and was the only candidate with the D.P.H. who did, but I was not elected. When I obtained the diploma I naturally supposed that it would stand me in good stead at such an election. I find now, however, that it is perfectly valueless where the population is under 50,000, as in my case. It seems to me that experience such as mine is not calculated to encourage men to go to the trouble and expense of getting a diploma from which they obtain no practical advantage.

I am, Sirs, yours faithfully,

June 6th, 1898. D.P.H. CAMB.

## AUSTRALIAN BRANDY.

IN THE LANCET of July 2nd, 1892, and March 16th, 1895, we dealt analytically with a specimen of brandy from the Victorian vineyards which was submitted to us by Messrs. Joshua Brothers, of 26 and 28, Mark-lane. We then expressed the opinion that the sample submitted was a genuine grape spirit, at the same time pointing out the undoubted advantages of spirit having such an origin over one distilled from grain. We are now informed that the Government of Victoria (Australia) have issued a special guarantee with each bottle of this brandy certifying the same to be pure and the product of wine only, their official stamp being branded on each cork.

## THE PERILS OF WINDOW-CLEANING.

*To the Editors of* THE LANCET.

SIRS,—An inquest was held at Crewe on May 28th on the body of a girl, aged sixteen years, who was killed by falling from a window which she had been cleaning. She had been in the service of her employer for eighteen months, so that he must have known that she was subject to "fits," as one account gives it, or "fainting fits," according to another. But whether fainting or epileptic no one subject to any kind of fits ought to have been employed in such dangerous work. It is some satisfaction, though very slight, to know that the coroner, at the request of the jury, recalled the employer, a builder, and "censured him for having permitted the girl to engage in this work knowing that she was subject to fainting fits." He got off very easily.

I am, Sirs, yours faithfully,

June 7th, 1898. X. Y. Z.

## HOLLAND'S INSTEP ARCH SOCK FOR FLAT FOOT.

THE relaxation of the natural arch of the foot, commonly known as flat-foot, not only leads to an ungainly manner of walking, but causes those who suffer from it to be less capable of active exertion than normal individuals. When the condition is of such long standing that there is no prospect of the muscles, tendons, and ligaments regaining their proper tension it may sometimes be advantageous to have a mechanical support which will partially restore the shape of the foot. The instep arch sock, introduced by Mr. Thomas Holland, of 40, South Audley-street, W., is a useful appliance of this kind. It consists of two layers of leather shaped like the inner sole of a shoe, the proper form for supporting the instep being given by a thin elastic metal plate interposed between them.

## "THE UNQUALIFIED ASSISTANT."

*To the Editors of* THE LANCET.

SIRS,—Permit me through the columns of THE LANCET to offer the following suggestion re "the unqualified man"—viz., let two or three examinations be held for all men who have taken out their full curriculum, or nearly so, and on passing the said examinations allow them to become registered and enjoy all the advantages of the present qualified assistant—viz., inquests, post-mortem examinations, death certificates, legal evidence, &c., but do not permit them to practise on their own account or recover fees by law except for their principal. If such were possible I think it would settle the matter and be a decided benefit to the present unqualified man and to the practitioners who would employ them; if they choose afterwards to obtain any other diploma let them do so by conforming to the four or five years' regulations and passing the necessary examinations.

I am, Sirs, yours faithfully,

June 6th, 1898. UNQUALIFIED.

## WANTED A HOME.

*To the Editors of* THE LANCET.

SIRS,—May I ask through the columns of THE LANCET if any of your readers could tell me of a home, private or otherwise, where a youth of eighteen years suffering from occasional attacks of epilepsy would be looked after on reasonable terms? As the attacks are neither very severe nor very frequent the youth could make himself useful on a farm or in a workshop. He at present is engaged on the waterside and is continually exposed to danger. His friends have made application to the Colony for Epileptics, but may have to wait years for a vacancy. I thank you in anticipation for the courtesy of inserting this letter and would ask that correspondence should be addressed in the first instance to THE LANCET Office, 423, Strand, W.C.

I am, Sirs, yours faithfully,

June 7th, 1898. M.

## BUDE.

*To the Editors of* THE LANCET.

SIRS,—It may interest your readers to know that the railway to Bude is to be opened in August next, thus bringing this favourite health resort into touch with London, one result of which, it is hoped, will be to make the place better known to the medical profession as a place to which to send convalescents in the winter and spring, its genial but bracing climate being especially suited for the overworked either in brain or body. I shall be happy to give any information to your readers as to temperature, &c.

I am, Sirs, yours faithfully,

THOMAS WHITEHEAD.

Erdiston, Bude, North Cornwall, June 4th, 1898.

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*J. M.*—The catalogue of the Motor Manufacturing Company, Limited 47, Holborn-viaduct, E.C., contains the notice of a motor bicycle, price £50. The same firm manufactures motor tricycles. The catalogue of the British Motor Syndicate, Limited, 40, Holborn-viaduct, E.C., also contains a notice of a motor tricycle. Our correspondent might communicate directly with the companies. We regret we have no extended practical experience.

*L.R.C.P.* should certainly be paid a fee, but would it not be better to send in a bill to the patient? If the patient repudiates the account and the arrangement made by the other medical man a strong representation should be made to that gentleman. If this does not produce any result legal proceedings may have to be taken; but our correspondent will do well to have a solicitor's advice.

*Electro, M.R.C.S.*—The process is described in most modern text-books and forms a routine treatment at general and special hospitals. The answer to the second question is that every man in such matters must be a law to himself. So long as the methods employed are not unprofessional the work should not be looked upon by anyone as derogatory.

*Mr. Sidney C. Laurence.*—This position is the one which has previously been assigned to the physicians and surgeons at State and Royal funerals.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

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**During the week marked copies of the following newspapers have been received:** *Derby Telegraph, Scotsman, Newcastle Leader, Alford Gazette, Bradford Observer, Dundee Advertiser, Times of India, Pioneer Mail, North British Daily Mail, Southport Times, Midland Times, Architect, Isle of Wight Chronicle, Warwick Advertiser, South Wales Daily News, Rugby Advertiser, Yorkshire Post, Builder, Preston Guardian, Glasgow Herald, Hinckley Times, Brighton Gazette, Lymington Observer, Liverpool Daily Post, Ormskirk Advertiser, North Wales Chronicle, Devon Gazette, Bristol Mercury, Sussex Daily News, Kidderminster Shuttle, Rochdale Observer, Citizen, Leeds Mercury, Accrington Observer, Isle of Man Examiner, Walsall Observer, Malvern Advertiser, Birmingham Daily Post, Birmingham Gazette, Leicester Post, Cambridge Times, Manchester Courier, Eastern Morning News, Hampshire Independent, Warwick Advertiser, Leighton Buzzard Observer, Boston Independent, Lynn Advertiser, Louth Times, Alfreton Journal, Bury Guardian, Bromley Telegraph, Durham Chronicle, Kentish Gazette, Southampton Times, Sanitary Record, Friendly Societies' Recorder, Local Government Chronicle, Public Health, Reading Mercury, City Press, Hertfordshire Mercury, Mining Journal, Daily Mail, London, Local Government Journal, Saltby's Ulverston Advertiser, Leytonstone Express and Independent, Surrey Advertiser, Weekly Free Press and Aberdeen Herald, Wrexham Advertiser, West Middlesex Herald, Canterbury Times, New Zealand Morning Mail,* &c., &c.

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